STRATEGIC AGENDA BUILDING AND CHANGE IN THE WATER INDUSTRY

by

Evelyn Maria Fenton

2 Volumes: Volume 1

Dissertation submitted for the degree of Doctor of Philosophy to the University of Warwick

Warwick Business School

April 1996

TABLE OF CONTENTS

TABLES AND ILLUSTRATIONS

ACKNOWLEDGEMENTS

The author wishes to thank all those interviewees who gave so generously of their time and shared with her their work experiences. To the library staff of Severn Trent and Thames Water I am very grateful for their help and accomodation. Also to my supervisors Andrew Pettigrew and Robin Wensley for their support, encouragement and critical guidance.

SUMMARY

An investigation into the trajectory of river water quality as a strategic issue for the water industry was conducted within two water organisations. This research traced the profile of this issue on the agenda of the water authorities over twenty years and within the industry over a century. The aim was to gain insights into processes of strategic agenda building and organisational development and change, linking process to performance in the achievement of river quality.

A contextualist theory of method was adopted in a comparative case study approach which sought to assess the performance of the two organisations in attaining improvements in river water quality during the time frame. The contextualist methodology necessitated examining the agenda building process from multiple levels and over time. To this end extensive archive research and 40 interviews were conducted.The influence of the wider social environment and the sector in the long term were found to be important in the formation of sector and organisational ideology which conditioned organisational developments. A structurationist approach demonstrated the key social structures and their properties implicated in the formation of organisational ideology and its change, as the water authorities were privatised.

A process model of strategic agenda building was developed and extended, based on an earlier model by Dutton (1988). This emphasised the influence of multiple contexts, the role of organisational ideology, issue related activities and the actions of sponsors as important additions to the original model. Further, the use of structuration theory, underpinned by a Realist perspective, outlined a conception of agency based on the causal powers granted by the necessary relations of the organisational structure or ideology, and that agency was granted by organisational members' access to alternative structural systems outside the organisational context.

This research concluded that the links between structure, process and performance are implicated in incremental and transformational change, and that the properties of structure were instrumental in the propensity for adaption and change. Finally, organisational processes should accurately reflect the rules of the system for change to work.

ABBREVIATIONS

BOD	Biological Oxygen Demand
BOD (ATU)	Biological Oxygen Demand with Ammonia
CBI	Confederation of British Industry
CEO	Chief Executive Officer
CIPFA	Chartered Institute of Public Finance and Accountancy
CLA	Country Landowners Association
CPRE	Council for the Protection of Rural England
COPA	Control of Pollution Act
COPA II	Control of Pollution Act Part 2
CAWC	Central Advisory Water Committee
CWPU	Central Water Planning Unit
DG	Director General
DoE	Department of the Environment
DWI	Drinking Water Inspectorate
EFL	External Financing Limit
GLC	Greater London Council
HMIP	Her Majesties Inspectorate of Pollution
HRM	Humanr Resource Management
IRBM	Integrated River Basin Management
IT	Information Technology
IWES	Institute of Water Engineers and Scientists
IWEM	Institution of Water Environmental Management
LA	Local Authority

MAFF	Ministry for Agriculture Fisheries and Food
MHLG	Ministry of Housing & Local Government
NFU	National Farmers Union
NPM	New Public Management
NRA	National Rivers Authority
NWC	National Water Council
OECD	Overseas Economic Confederation of Developed
OFWAT	Office of Water Regulation
PC	Pollution Control
PCO	Pollution Control Officer
PLA	Port of London Authority
PH	Public Health
RA	River Authority
R-Day	Reorganisation Day
RQO	River Quality Objective
RSPB	Royal Society for the Protection of Birds
RWQ	River Water Quality
STWA	Severn Trent Water Authority
SWQO	Statutory Water Quality Objective
SWWA	South West Water Authority
TWA	Thames Water Authority
UWWD	Urban Waste Water Directive
WA	Water Authority
WAA	Water Authorities Association

WDU	Water Data Unit
WNWDA	Welsh National Water Development Agency
WRB	Water Resources Board
WRC	Water Research Centre
WSA	Water Services Association
WSAC	Water Space Amenity Commission
WSC	Water Service Company
WSPLC	Water Service Public Limited Company

1. INTRODUCTION: STRATEGIC AGENDA BUILDING AND CHANGE IN THE WATER INDUSTRY

This study sets out to gain insights into processes of strategic agenda building within organisations by exploring the trajectory of one strategic issue over time. Greater analytical force was seen to be gained by a comparative study between high and low performing organisations in relation to the issue. It was hoped thereby to gain fresh perspectives on the management of organisational change. In particular, this research is concerned with managerial agency, its aetiology and implication within structural relationships. To this end, two UK water companies were selected for high and low performance in achieving river water quality standards. The water industry proved a good focus of study because it provided over 20 years of organisational development during which to track the issue. River water quality had been an issue of concern to the industry at the formation of the water authorities in 1973 and became their responsibility for the following 15 years. The self-regulating status of these organisations was a continuing source of controversy, both inside the industry and outside, amongst the various stakeholders with an interest in rivers. As such, river water quality was considered to have the attributes of longevity and controversy necessary for the long term tracking of a strategic issue.

The research compares the pattern of interest and exposure in river water quality between Severn Trent and Thames Water, based on their performance in maintaining quality and achieving river quality objectives. That is, it is concerned with how the administrative systems and decision processes influenced the strategic position adopted by the case studies. In this sense, the study falls within the sub-field of strategy process research (Huff and Reger, 1987; Chakravarthy and Doz, 1992). It is however distinctive from much process research in including, like strategy content research, the external environment within the remit of analysis, at both industry and macro-environmental levels. In this way the effect of context on process is explicitly

considered (Pettigrew, 1985c; Huff and Reger, 1987). Moreover, this research is concerned with time and so adopts a historical approach. Thus the scope of the study is both temporally and contextually broad, for it includes an analysis of the river water quality issue since the beginning of the industry in the mid nineteenth century. While the narrow focus on a single strategic issue enables an understanding of the contextual variables and links which make a difference. Thus reflecting the context of the strategic decisions and issue under analysis. As Huff and Reger (1987) make clear, the nature of process is sensitive to the subject being considered and so the content of strategic decisions is important: their industry, historical contexts and the anticipated future of other decisions.

This study therefore follows the tradition in strategic process research that seeks to examine several administrative systems simultaneously but focus on a narrow strategic problem (cf Bower, 1970; Miles and Snow, 1978; Guth and Ginsberg, 1990; Van de Ven, Angle and Poole, 1989). Such a holistic approach attempts to track simultaneously over time, multiple contextual factors, strategies, decision processes, administrative systems and outcomes. The aim was to produce an account of management processes that was rich in description and would provide new conceptual lenses to observe important phenomenon and challenge extant beliefs (Chakravarthy and Doz, 1992). In this respect the research aimed for some non-intuitive but supportive hypotheses and was open to surprising conclusions (Huff and Reger, 1987).

In line with strategy process research, this study calls on a broad set of disciplinary bases (Chakravarthy and Doz, 1992) including concepts and research from the longer traditions of related social sciences (Huff and Reger, 1987). The work on organisational agendas and issue attention builds on insights from theoretical treatments of attention allocation from a diverse set of literatures. For example, economists (Simon, 1971; March and Olsen, 1976), have shown an interest in

resources (Radner, 1975; Radner and Rothschild, 1975; Winter, 1981). Psychologists have been concerned with perception (Taylor and Crocker, 1980) and the characteristics of the stimulus (Norman, 1976). Decision making theorists (Mintzberg, Raisinghani and Theoret, 1976) and advocates of the garbage can model of decision making (Cohen, March and Olsen, 1972; March and Olsen, 1976) have been interested in political and perceptual processes. The work on issue definition (Cobb and Elder, 1972; Edelman, 1964), issue formulation and diagnosis (Dutton et al, 1983; Lyles and Mitroff, 1980) has been important. The political view of organisation science (Pfeffer, 1981; Smircich and Morgan, 1982) has looked at the motivations of decision makers and the attention of decision makers (Bauer, 1968). The public policy perspective (Cobb and Elder, 1972) has been concerned with the external political environment.

The interest in multiple contexts has drawn on writers of the external context (Aldrich, 1979; Bendix, 1956; Child, 1968; Meyer and Rowan, 1977), the influence of time on organisations (Sztompka, 1991; Whipp, 1995), of structures on organisations (Ranson, Hinnings and Greenwood, 1980; Whittington, 1988; Sewell, 1992), industry recipes (J-C Spender, 1989), and industry ideology (Selznick, 1949; Reynolds, 1986; Gordon, 1991). Further, organisational ideologies have been discussed by a range of authors (Meyer, 1982; Johnson, 1990, Pettigrew, 1979; Brunsson, 1982, Clark, 1972; Wilson, 1973; Pfeffer, 1981) to name a few. The study's concern with organisational developments over time has called upon organisational change theorists (Pettigrew, 1985c; Tushman and Romanelli, 1985: Johnson, 1990) and industry level change theorists (Meyer, Brooks and Goes, 1990).

Finally, the overriding concern with managerial agency, implicated in the strategic agenda building process has drawn insights from sociology (Giddens, 1984; Sewell, 1992) and organisational theorists (Whittington, 1988, 1990, 1992; Tsoukas, 1994).

Chakravarthy and Doz (1992:6) suggest three distinct and fundamental questions for strategy process research: first, knowing the relationships between a firm's administrative systems, decision processes and its competitive and/or resource positions. This has been attempted in this study by analysis of interconnected contextual features which have an impact on the agenda building process. The organisations' performance on river quality has been assessed in terms of the issue context, managerial perceptions, structure, function, issue sponsorship and organisational ideology. Second, how does a firm achieve and maintain effectiveness in the above relationships, is answered by comparison of the internal contexts of the high with the low performing organisation. Third, how does a firm modify its administrative systems and decision processes both in response to environmental changes and through its own proactive actions, is answered by an analysis of managerial agency and from whence it derives its inspiration and power.

Strategic process research requires a range of more intrusive measures (Chakravarthy and Doz, 1992) and to this end, in-depth interviews were conducted in both companies and industry related organisations. As the above questions are more properly answered through longitudinal studies, detailed historical work was carried out in its place, given that long term fieldwork in a study of this kind was impracticable. The historical work was based on documents such as annual reports, internal company reports, industry literature, professional articles, government reports and historical writings. In this way, the researcher could avoid the traps of erroneous assumptions about organisational processes: that is, not allowing theory to blind observations of process and avoiding overly simplistic assumptions about the strategic process or its boundaries and the misuse of simple dependent variables that may have little to do with the process. By considering all contexts over time, including the historical context of the issue, one attempts to avoid over reliance on obvious causal links by exploring an issue from multiple perspectives. More importantly, the framing of the case studies within a punctuated equilibrium model of change (Tushman and

Romanelli, 1985) allows for the continuity and fluctuations which characterise long term organisational developments. This provided the crucial dynamic context for the tracking of a strategic issue, thus avoiding the assumption of the steady state implicit in so many cross-sectional studies (Chakravarthy and Doz, 1992). The combination of contextual analysis and intrusive measures with historical analysis is an innovation in the agendas and attention area, by which it is hoped to add more to the ongoing research stream (Huff and Reger, 1987).

A key aim of this research was to derive insights into the processes of organisational change by an understanding of how it was that organisational agendas were shaped and issues gained or declined in importance. That managing changing organisations remains a top research item is supported by the work of Bower and Hout (1988) on top performing companies; Keats and Hitt (1988) on structures and environment and Porter (1987) on restructuring. In her review of the strategy field, Lyles (1990) concluded that managing changing organisations, transformation and the implementation of strategy, were the second group of major issues after globalisation for a research agenda in the 1990s, and that this also held true for future agenda issues for research into strategic management. However, transformational change processes have seldom been researched comprehensively (Chakravarthy and Doz, 1992) and this research is a small attempt at righting this imbalance in the field.

Also, the area of agendas and attention is seen to be populated with a morass of independent articles, written in isolation from each other, which has hampered research progress (Huff and Reger, 1987). By building on existing theory and research in this area, specifically Dutton's (1988a) model of strategic agenda building, it was hoped to extend and develop the current work. In particular the research aim was to address the central processes driving change via agenda building. To consider the nature of managerial agency implicated in the change process and in so doing, to become relevant to managerial practice (Chakravarthy and Doz, 1992). Indeed

managers might be particularly interested in the work on agendas and attention which has focused on why and how managers attend to some strategic issues better than others (Huff and Reger, 1987). To this end, this work aims to explore the nature of managerial choice: its possibilities, how it is that managers derive the power of action and what is necessary for them to do to render certain strategic outcomes.

2. LITERATURE REVIEW

2.1 Introduction

This research concerns the evolution and transformation of two water companies over 20 years. It seeks to understand organisational development in multiple contexts and through varying temporal modes. The focus is upon the trajectory of a single strategic issue over time. But the research interests are broad, encompassing both the social origins of this issue and its internal manifestation in organisational life. In tracing the history and trajectory of one strategic issue through multiple contexts, the focal points multiply, to include the overall strategic agenda, decision-making, organisational culture and change, and ultimately, the place of these focal organisations in society. The research questions center on how organisational members derive and implement their agency and with explaining both the patterns and processes of organisational development. It is these plural and wide ranging concerns which have informed the content and structure of this literature review.

It is with the research questions in mind, that this review seeks to expose some common themes in the literature on organisational science and to suggest the inclusion of newer ones from work done in the fields of sociology and history. In particular, the more recent concerns with synthesis of traditional theories, such as structuralism and functionalism, so evident in the focus on paradoxes (Merton, 1948), dialectics (Blau 1964), and mediating concepts such as habitus (Bourdieu, 1986), historicity (Touraine, 1977), figurations (Elias, 1987), mobilisation (Etzioni, 1986), anomie (Merton, 1968), duality of structure (Giddens, 1976), and agency (Archer, 1986). As Sztompka (1991) so lucidly elaborates, it is unclear what exactly these referents are because they are neither people nor things. It is this very difficulty which is a signal that the traditional dichotomies of individual and society, as well as of the social static and social dynamics, are intuitively felt to be insufficient. This disquiet has emerged only relatively recently in organisational science and is largely confined

to the sub-group management studies (Whittington, 1992), a direct result of the influence of the related fields of history and sociology.

It is the intention of this chapter to follow in Sztompka's (1991) footsteps and explore the twin dichotomies of modern social theory as they apply to organisations: that of agency and structure and continuity and change, for they are the central questions implied in the subject of this research. Transformation and change concern the evolution of organisations through periods of both continuity and change while strategic agenda building plays a fundamental role in managerial agency. The existence of these dichotomies side by side must of necessity require synthesis whereby the duality of agency and structure occurs over time. The research biases conceive social phenomena as contextualist, temporal and processual and seek research outcomes which have significant explanatory force for organisational phenomenon.

The structure of this chapter will flow from macro to micro processes of organisations, beginning with the most enduring and pervasive of notions for organisational enquiry, that of social role, then to the temporal and processual, those of history, organisational development and strategic issues. These subject areas are in reality tightly interwoven but their discrete study should alert theorists to be mindful of perspective: *In short, the closer the "horizon", the more visible the actor but constrained by his context; in the longer time perspective, actors become less "visible" but their frames of meaning, the product of their structuring, more determinate: constituted structures have become constitutive* (Ranson et al, 1980:14).

It is this question of perspective which has been so influential in the one sidedness of much organisational theorising. The task here will be to highlight what has been made "visible" by key theorists in each subject area and examine the dichotomies arising out of the different approaches. In particular, the possibilities offered by an integration of

the twin dichotomies, agency and structure and continuity and change, will be explored. The chapter closes with an attempt to synthesize these critiques into a framework for further analytical enquiry.

2.2 Organisations and Society

In this section a selected review is made of the literature concerned in different ways with the role and place of organisations in society, beginning with the work on organisational environments and the concern with understanding the nature of the profound changes which have taken place in the 20th century. It then turns to the way in which organisational links are forged with the environment: in particular, the contingency, cognitive, dialectic and realist models. In making a case for a realist conception of organisational action, the institutionalist and contextualist positions are studied in the context of social structures. Finally, as an example of a realist interpretation, the body of work known as the new public sector management, exemplified in Pollitt's (1991) work, is re-examined in the light of structurationist principles and for its particular relevance to this study.

2.2.1 organisations and environment

It has been well documented that the nature of organisational environments has changed dramatically since World War II (Ansoff, 1969; Emery and Trist, 1965; Drucker, 1969; Bracker, 1980; Stubbart, 1985; Richardson and Richardson, 1989). Organisational theorists have been keen to specify the nature of these changes although the degree of historical application, with exceptions (Bell, 1973; Ansoff, 1987), has been minimal.

Early attempts (Merton 1957; Gross, Mason & McEachern, 1958) sought to specify the environment by describing its elements. Hood (1962) noted the increased complexity and accelerating rate of change in organisational environments.

Businesses are perceived to have moved from a relatively stable environment into a more rapidly changing and competitive environment (Bracker, 1980). Ansoff (1987) has attributed this change to a marked acceleration in the rate of change within firms, as well as the accelerated application of science and technology to the process of management. This, Ansoff (1987) argues, has put a premium on the ability to anticipate change, take advantage of new opportunities and take timely action in avoiding threats to the firm. This environment-organisation-effectiveness paradigm was utilised to understand organisational phenomena but was problematic in tapping the important aspects of the environment (Downey & Ireland, 1979). Other authors argued the opposite, that the kind and extent of present-day change precludes prediction of the future (Drucker, 1964; Gardner, 1963; Dun's Review, 1963).

More historical approaches labeled the late twentieth century as the post industrial era (Bell, 1973; Ansoff, 1987). It is uniquely characterized by change as well as turbulence, having increased complexity and loss of social centrality. Toffler (1981) saw this as the coming of the third wave, Rifkin (1981) mentioned the societal effects of entropy and Naisbitt (1982) characterised it by megatrends.

From a more theoretical perspective, organisational environments have been conceptualised as both levels and dimensions. It was Dill (1958) who first drew the distinction between the general and task environments, later developed by Fahey and Narayanan (1986) into a prescription for how organisations might attend to the four main features (political, technological, demographic and social) of the macro-environment. Dill (1962) suggested that a full specification of the nature of the environment was not possible for a modern complex organisation. He suggested that the environment be treated in terms of the effects upon the organisation. Generally interpreted in terms of the concepts of environmental uncertainty and complexity, Dill's work became a catalyst for important research but engendered the biggest controversies. These concerned the perceptual measures used to operationalise

environmental attitudes, the possibility of employing objective measures and the effects of subjectivity in their analysis.

The most widely quoted environmental dimensions are Emery and Trist's (1965) `causal texture of environments' and `turbulence'. Causal texture is the area of interdependencies belonging within the environment. This theme was expanded upon in Terreberry's (1968) landmark paper which focused on the effects of interorganisational dependencies. Her main thesis was that contemporary changes in organisational environments are such as to increase the ratio of externally induced change to internally induced change and that other formal organisations are increasingly important components of the environment of any focal organisation. Thus, strategic issues from the task environment are likely to affect competitor and supplier/buyer type relationships, as in Porter's (1980) industry structure model. While the macro-environment is likely to throw up issues from government, regulatory and consumer protection groups. In this way, Terreberry went some way to reconciling concerns with levels and dimensions.

Turbulent field environments are conceived of as tightly interconnected and rapidly changing, with too much information. Emery and Trist (1965) have argued that it is the combined effect of previously unrelated influences, arising from within an obscure general environment, which poses the greatest organisational threat. Organisations are not typically in touch with elements in the general environment on a day-to-day basis and yet these are the very areas which are most difficult to spot and understand, and often the root cause of many organisational problems (Richardson and Richardson, 1989). Further, it is the essential characteristics of turbulent fields which result in cause and effect confusion - a difficulty in isolating two variables, due to tight interconnectedness and rapid change. This leads to unpredictable change because these patterns of change stimulate further changes. Thus, according to Emery and Trist, individual business units will experience goal aggravation as turbulence

intensifies and a lack of control, as the patterns of reaction and interaction become impossible to decipher.

Ansoff (1987) sees turbulence as due to the new affluence within society which has meant consumers' demands have changed. Thus the aim of the industrial firm now is to maintain affluence and differentiation, as well as social responsibility. This is supported by Richardson and Richardson (1989) who cite the growth of consumer law in the past couple of decades. The era of caveat emptor has now given way to caveat vendor. They identify increased merger activity as contributing to the complexity of the environment. This has resulted in firms being responsible for many products and markets with the inherent difficulty of management. Additionally, they list a growing range of environmental forces, such as technical innovations, economic activity, social attitudes, government policies, culture, international relations and climate which are ever more active in attempting to influence all types of enterprises. Related to turbulence is Duncan's (1972a) concept of `uncertainty' which owes much to Terreberry's (1968) earlier work. This is comprised of the dimensions of complexity and dynamism (a great number of factors to be taken into consideration) alongside rapid change within the environment. Duncan does not distinguish between levels in the environment but conceives of it as: *the totality of physical and social factors taken directly into consideration in the decision-making behaviour of individuals in organisations* (1972a:314). What he does make explicit, however, is that uncertainty, complexity and dynamism are not constant features for an organisation, but dependent upon the perceptions of organisational members. Thus, the nature of environmental characteristics is a subjective one, dependent upon individual differences.

This recognition of the subjective nature of environmental perception, implicit in the work of contingency theorists like Lawrence and Lorsch (1967) and Duncan (1972a,b), has been made explicit in the cognitive literature's phenomenological

approach (Weick, 1979; Stubbart, 1989; Huff, 1990). Much less attention has been paid to assessing the degree of fit between managers' perceptions of the environment and `objective' measures. It is assumed that organisational perceptions of internal and external events are never accurate. Environmental signals become distorted through the organisation's reception system. This system incorporates a decoding mechanism or `repertoire' (Shrivastava and Mitroff, 1983), `template' (Pondy, 1984), or `programme' (Starbuck, Greve & Hedberg, 1988).

The objective-subjective dichotomy is a constant theme in the literature and, according to Downey & Ireland (1979), had at least two dysfunctional effects on organisational research. First, it tended to a priori push research away from qualitative data. The objective-subjective dimension equated objectivity and thus scientific enquiry, with quantification, thereby avoiding qualitative assessments. Second, the objective-subjective dimension equated subjective measures with perceptions. This was based on a confusion over whose subjectivity was involved. When qualitative measures are equated with subjectivity, subjectivity is ascribed to the assessor. When the measurement of perception is equated with subjectivity, subjectivity is ascribed to the assessee. Thus, subjectivity can apply to the way something is measured or the object being measured. The current usage of the objective-subjective category to describe the assessment of organisations' environment, however, fails to distinguish properly between these two attempts at assessment.

Various attempts have been made to reconcile the objective-subjective dichotomy. Downey and Ireland (1979) propose an alternative approach in which the environment is measured using two dimensions: what is being measured (participant interpretation or environmental attributes) and how they are measured (quantitatively or qualitatively). In this way previous research may be categorised along these two categories. While useful as a taxonomic tool, this does not get at the heart of the concern with what is being measured or its validity. An integrative approach was

proposed by Bourgeois (1980). He suggested that the objective task environment is `real', measurable and external to the organisation while perceptions of the environment, although equally real, are events taking place within the organisation as part of the strategy making process. Thus primary or corporate strategy was linked to `objective' analyses of the general or macro-environment. While secondary or business strategy had as its prime input `subjective' perceptions of the task environment.

Although Bourgeois' integration effort is useful, it assumes organisational assessments can be objective: a claim denied by cognitive theorists who assume bias is inherent in the interpretation of environmental events. Also, depending upon the resources available to an organisation for scanning, knowledge of the task or industry level environment will be more `accurate' given a greater level of interest and organisational experience of interaction within its industry. Many organisations, particularly of small and medium sizes do not attend formally to the macro-environment (Orminski, 1991). This has even found to be true of large organisations (Brauchlin and Colsman, 1991). This is particularly true where rapid changes at the industry level are consuming their attentional time. Individuals' perceptions of the task environment tend to have the status of informed observations and information gathering is informal. Despite these practical objections an even greater problem is presented by the instances of organisational irrationality in ignoring environmental signals. Nowhere in this vast field of literature, whose chief aim appears to be the search for organisational effectiveness, are there explanatory accounts powerful enough to convey the strategy process. For this we must turn to the literature on organisation-environment interaction and examine the more explicit attempts at capturing that Holy Grail of strategic success.

2.2.2 organisation-environment links

This body of work is chiefly characterised by four main models of organisation environment interaction: contingency, cognitive and dialectical. They each contribute to a variety of hybrid models such as organisational learning, strategic choice, population ecology and resource dependency. The strategic choice and dialectical models have striven to overcome the determinist-voluntarist dichotomy but are seen to be inadequate. A synthesis of the choice and constraint dilemma is proposed via a Realist model of agency.

The contingency perspective springs from much of the work discussed in the previous section on the nature of the environment. Contingency theorists view the environment as an encompassing medium from which information is received and monitored by organisational members. Although researchers place different emphases on the degree to which organisations react or enact their environments, the role of organisations is seen chiefly in adapting and responding to constraints imposed by the environment. This view suggests a certain degree of "fit" is appropriate between the internal organisation structure and the degree of environmental uncertainty facing the organisation (Lawrence and Lorsch, 1967).

An alternative view is presented by cognitive models which view the environment as an `enacted' process (Weick, 1979), arising in retrospect out of managers cognitive experiences. Weick emphasises that organisations do not simply react to information in the environment but "enact" that environment by the selective attention of decision makers to only some parts of the environment. The so called "irrelevant" parts of the environment are defined out of existence in an operational sense, as lying outside the organisation's "domain" of legitimate activity (Levine & White, 1961). An organisational learning approach views cognitive models as a good basis for practitioners to enhance environmental analysis and the strategic decision making capacity of their organisations (Lenz and Engledow, 1986). Still others have used

cognitive models as a basis for understanding organisations as interpretation systems (Daft and Weick, 1984). Here the mode of interaction with the environment is determined by assumptions as to the analysability of the environment and organisational intrusion.

The concept of organisational "domain" derives from specific goals which decision makers wish to pursue and functions which they cause an organisation to undertake in order to implement goals. This process, whereby organisations for example come to select certain products and markets as their domain, is one of strategic choice (Child, 1972). Decision makers' frame of reference has to take into account some constraints on their activities, but there will normally be considerable leeway within these constraints for expression of such strategic choices: the implication being that albeit an imperfect information processing ability, managers make rational deliberate choices within the boundaries of individual and external constraints.

The contingency and strategic choice views appear mutually exclusive. The first sees environmental constraints as impinging upon organisations, whereas the second sees organisations as impinging upon environments through choices that are made by decision makers. We are left to believe that either nothing is chosen or everything: either the environment has immutable effects, or its effects are felt because decision makers' preferences have directed attention toward it. Hickson, Astley, Butler and Wilson (1981) reconcile contingency and strategic choice views by the addition of the temporal dimension. In this way choices are made in sequence over time, the environment is both chosen and constrains choices. It then becomes possible to replace mutual exclusivity by a continuum ranging from complete organisational autonomy to complete environmental restraint. Borrowing from Aldrich's (1979) conception of the environment as an interorganisational exchange network, they then conceptualise organisation-environment relations in terms of relationships of power existing between different organisations. A resource dependence view thus enables the

location of organisation on a continuum of power, indicating the degree to which they are autonomous or constrained.

This type of theorising borrows from the resource dependency models of Pfeffer and Salancik (1978) and human ecology theories (Hawley 1968; Hannan and Freeman, 1977; Hannan, 1989 and Aldrich, 1987). These in turn are influenced by the earlier work of Emery and Trist (1965) and Thompson and McEwan (1958) with their interest in the increasing interdependence of organisations within turbulent fields. What they all share is the premise of the fundamental role which the environment plays in shaping organisations. As Gordon (1991) writes of the relationship between environments and organisational cultures, it is obviously related to the claim that organisations, in general, are affected by their environments. Such relationships are central, for example, to the open-systems perspective advanced by Katz and Kahn (1966). Pfeffer and Salancik (1978) also present a strong argument for the proposition that companies depend on the resources allotted to them by their environments for their survival and effectiveness. These authors suggested a model whereby the environment affects the distribution of power and control within an organisation, which, in turn, affects the selection and removal of officers and, finally, the organisational actions and structures. However, the ties between organisation and environment are far from perfect, and, indeed, they have been described as loosely coupled (Weick, 1979): *Loose coupling is an important safety device for organisational survival. If organisations were completely determined by every changing event, organisations would constantly confront potential disaster and need to monitor every change while continually modifying themselves* (Pfeffer and Salancik, 1978:13).

Where Hickson et al (1981) depart from this work is in the notion of power as a crucial link explaining the dynamics of population ecology theories. Here the exertion of power in and between organisations rests on the institutionalisation of those organisations as systems of power. Institution building is thus a construction of a balance of power. The legitimisation of organisations as institutionalised systems of power is formally noted by acts and decrees and regulations of governments. Power is conceived as a holistic dialectical process in which induction and resistance simultaneously condition and exclude each other in a cyclical relationship (Rus, 1980). Thus organisations are at one and the same time jostling coalitions of diverse internal and external interests, in which power of one constrains the power of another, and institutional hierarchies, in which power runs up as well as down. In this way, Hickson et al (1981) conclude, organisations are composites of what Rus (1980) would see as unending Hegelian contradictions.

In Zeitz's (1980) dialectical model, organisations construct major portions of their environments through the production of resources and the control of interaction networks. Dirsmith and Covaleski's (1983) empirical research supports this notion. They found that approaches used to understand organisational action are negotiated over time, in an interactive process that roughly corresponds to the strategic norms of organisational action, which are in turn negotiated. Implicit within these views is the notion of the organisation as inseparable from the environment under study. An organisation fashions and is fashioned by (task) environmental elements.

Both dialectical and cognitive models have been criticised as having dangerous consequences for accounts of strategic choice (Whittington, 1988). Both suffer from interpretive voluntarism which views organisations as constrained by the way they socially construct reality. Dialectical models suffer from historical and structural determinism, where the structure is continually reproduced by agents in a simultaneous dialectic which determines organisational action. Cognitive models

alternatively, have the tendency to dissolve away environments, the implication being that researchers are liable to neglect structures beyond actors' immediate experience or understanding. Ultimately, both approaches fail to recognise the social as an essential precondition of human agency.

What Whittington (1988) is proposing instead is a Realist model derived from Roy Bhaskar's (1978; 1979; 1986) critique of Positivism and the hermeneutic tradition. This critique is founded upon an ontological distinction between laws or structures and the events or experiences actually accessible to empiricism. According to Bhaskar (1979 ch1), positivists confuse regularities of experience with structure, while for interpretivists, structures are fused continuously in events. This position insists upon the recognition of both structure and agency as an explanation for human activity. Thus, pre-existing structures are essential to the constitution of humans as both sufficiently complex and powerful to exercise agency. In this conceptualisation of strategic choice, the world is stratified, social structures are deeper, constituting enduring powers or tendencies which are only contingently realised in actual events. It is the 'ontological gap' between structure and action that preserves the possibility of agency. Structures merely provide the powers which agents must mobilise in their activities (Bhaskar, 1978:110-12). Moreover, agents apply these powers selectively according to their particular purposes. Thus these structures enable actions, defining their limits but not their contents.

The reality of structures derives exclusively from the actions they enable: they are present simply in their effects. Social structures are only produced and reproduced through the activities they permit and are transformable through the intentional exercise of human agency. The crucial distinction from the voluntarist position is in denying the dialectical reproduction of structure. For agency presupposes structure, as without it agents would lack the powers so essential to action. Choice is possible because of the stratification of social and human reality. For instance, not only are

capitalist structures themselves subject to internal contradictions, but the human actor too is constituted psychologically, sociologically and physiologically. It is the tension between these three strata which ensures the exclusion of any unambiguous internal determination. Further, these internal structures are no more than tendencies, for they must be acted upon according to the beliefs supplied reflexively by the actor. The stratification of human actors constitute a complexity that provides the basis for actors' independent construction of their own purpose. The Realist emphasis upon structure as precondition for agency discounts voluntarism and relativism on two counts. First, the unequal access to resources prevent humans from being equal in their agency. Second, these pre-existing structural inequalities are open to critique despite the interpretivist claim for the priority of the subject's own perceptions, for there is no reason to grant the actors privileged understanding of conditions they did not make. Thus Realist social science does not take agency for granted: ...*we never start, cognitively or more generally socially, any more than we can begin biologically, from scratch: that we are always in the predicament of the tinker, having to mend our cognitive tools on the job; that we learn to swim in the water not on the beach* (Bhaskar, 1986:162). By exposing the structural inequalities that inhibit them, it aids actors in the structural transformations by which they may make themselves free.

The implications for organisation-environment links are that organisations constantly face constraints in the form of pre-existing structures such as government or monopolies. The inherent contradictions within such structures allow for lobbying and alliance building to dilute or countervail their power. Choice remains possible because capitalist structures are subject to internal contradictions and because they remain tensely engaged with other structures such as ethnicity and gender (Walby, 1986). For instance, Miles' (1982) account of the tobacco industry's response to consumer protection legislation showed how the Big Six undertook collaborative ventures to counter such restrictions as increased taxation. *Thus structures present the actor with*

no unambiguous imperatives, but rather with a confused range of constraints and resources from which to pick and choose (Whittington, 1988: 532).

Social structure is also involved in constituting the internal drive of the individual that is the other precondition for agency, and hence for strategic choice. The invasion of the social with its inherent contradictions into the construction of the personality creates, through its conflict with the physiological and the psychological, an inner complexity that releases the actor from any unique imperative. Here Whittington argues for support of Bhaskar's (1979) concept of the stratified human actor with examples from Hyman's (1987) focus upon the social structural contradictions essential to strategic choice and Whitley's (1987) appreciation of the social constitution of management teams as critical to explaining firm behaviour. In these kinds of examples ...*social structures are significant because they make a difference to strategic choice. This difference is felt both in what agents seek and in what they can realise.* (Whittington, 1988:533). Just how particular actors will deploy their various structural advantages depends upon the resolution by each of their internal complexities. However, each member resolves these internal conflicts uniquely according to a reflexive play of all their peculiar social, psychological and physiological constituents. Thus, even from common social structural conditions, actors construct for themselves codes and objectives for conduct that are independent of any singular structural determination and are personal to themselves.

It is proposed that a Realist model provides the greatest explanatory account of the tension between choice and constraint in organisation-environment links. Crucial to this account is the inextricable involvement of structures, both in how agents construct their strategic goals and then realise them in their strategic choices. Environmental structures are not necessarily antagonistic to strategic choice; rather they both form its precondition and inform its content. It is the specific role of social structures that is the subject of the next section.

2.2.3 organisations and social structures

In this section the review is concerned with exploring the treatment of social structural influences within the sociological and management literature. The management literature is represented by two major planks of thought in the institutionalists and contextualists. Of concern in this section is how organisations deal with structural changes and the utility of these accounts in providing explanatory force. A critique of this literature will propose an alternative perspective in structuration theory (Giddens, 1984) and its chief advocates in the management field, followed by some implications for management research. This section will end with an example of a social structural phenomenon of particular relevance to this study, the new public sector management, in which the potential for structuration theory will be explored.

The sociological literature provides many examples of attempts to establish links, both implicit and explicit, between social structure and organisations. Bendix (1956), for example, explored the relationship between dominant political ideology and how authority of managers over subordinates was legitimated in an industrial context. Abegglen (1958) found that certain features of the Japanese social structure were reflected in the social organisation of the factory. And Crozier (1964) examined how certain characteristics of French society were embedded in the French bureaucratic system. These examples demonstrate that there are systematic relationships between social structure and organisations; they do not, however, provide any evidence about how changes in organisational structure might be related to changes in social structure.

From the organisation science literature, Stinchcombe (1965) noted the relationship between organisational inventions and available social technology, an argument that was more fully developed by Hall (1973). Burns (1967), in a discussion of a comparative study of organisations, noted the links between the value system of society and the pattern and structure of organisations. The capabilities of a society to meet demand and use resources were related to the kinds of organisations brought into being. Kimberly (1975), on the basis of propositions advanced by Stinchcombe (1965) and Burns (1967), took a system-theoretic approach to organisational analysis in conceptualising the problem. Thus, as open systems, organisations engage in various transactions with their environments. These transactions are complex, variable across organisations and environments, and reciprocal. At a given time, however, there are various environmental constraints which limit the structural form that organisations can adopt. Thus the aetiology of organisational configurations is, at least in part, a function of environmental influences, and variability in these configurations should be predictably related to variability in environmental influences. In a sample of 123 sheltered workshops, Kimberly found evidence of a relationship between environmental constraints in the form of funding and organisational structure. This kind of empirical support for the relationship between social structure and organisational structure suggests the utility of a general theoretical perspective, which views organisational structure as a product of a set of interacting constraints, both internally and externally, which are subject to various degrees of direct control by organisational members. It would appear that factors over which organisational members have very little direct control are very important in determining structural outcomes. This research also concludes on the possible impact of changes in

individuals and agencies in society who control essential resources, and the differential rates of organisational response to changes in values and technology. What this research does highlight is the importance of taking changes in external constraints into account when attempting to explain differences in organisational structure.

The structural and open-systems approaches are somewhat barren in their explanations of organisational members' behaviour. The focus on form and exchange, while fundamental, merely shows us the rationale of what is on the surface. They are deterministic in their accounts of the agency attributable to organisational members and present these as diminished in the face of reified structures. What is needed are explanatory accounts of societal influences on plural rationalities within organisations.

The contribution of institutional theory has been to highlight the importance of social rather than just economic rationalities for organisations (Meyer and Rowan, 1977; DiMaggio and Powell, 1983). As in cases of multi-divisional form (Fligstein, 1985) or corporate bureaucracy (Hinnings and Greenwood, 1989), the adoption of new organisational structures may be driven as much by peer group mimicry as by performance maximisation. Institutional theory emphasises the social embeddedness of organisational action and the tendency towards conformism and isomorphism between large organisations that dominate any given sector. The paradox of the prescriptive nature of strategic management theory (Simon, 1948; Mintzberg, 1990) is that the ability of organisations to make strategic choices is emphasised, yet these prescriptions, applied uniformly across a sector, lead to a herding tendency with an

ultimate isomorphic outcome, whereby organisations in that sector look increasingly alike. The forces towards isomorphism are many: performance norms, transfer of common norms by informal management associations, formal qualifications, strategic planning methods (Hurst, 1986; Alvesson, 1991; Gimpel & Dakin, 1984; Mintzberg, 1994). Typically, institutionalists focus on the influence of the state or professions, but a recent important study of direct sales organisations has also demonstrated the role of societal ideals of family and ethnicity in organisational integration (Biggart, 1989).

Insightful though the incorporation of social structure might be, institutionalists give it too dominant a part. They emphasise social pressures for homogeneity rather than variation, imitation rather than idiosyncrasy (Scott, 1987). Institutional theory is good at explaining homogeneous strategies but finds it much harder to accommodate socially inspired resistance to change. Indeed, it ignores the reflexive ability of organisational actors to comprehend their situation. To explain conservatism that is simultaneously embedded in and opposed to society, one needs a less overwhelming account of environment. What is required is 1, the plural and potentially contradictory nature of social structures and 2, the capacity of actors to draw upon these structures selectively and creatively. Actors can resist pressures for change from one part of the social or economic environment by mobilising a selection of alternative norms, ideologies and resources from other parts. Thus, in terms of Giddens' (1984) 'duality of structure' society does not only constrain actors to conform, it can enable them to resist.

It is this perspective that informs the contextualist concern for processes of strategic change. Pettigrew (1987:657) explicitly invokes Giddens (1979) when he argues both that structure and context should be conceptualised ...*not just as a barrier to action but as essentially involved in its production* and that *aspects of structure and context are mobilised or activated by actors and groups as they seek to obtain outcomes important to them.* Unlike institutionalists, for whom actors are basically conformist and society is only a reference point for imitation, contextualists endow actors with an essential integrity of purpose and propose society as a supplier of diverse means towards individual, even eccentric ends. Thus the contextualist perspective can recognise the possibility of resistance to economic rationalities and conservatism that is at once based on and in opposition to the social environment (Whittington, 1988).

The contextualists' pluralistic and enabling conception of the environment is, therefore, more sympathetic to a socially embedded account of both strategic change and resistance to change. According to Whittington (1992), however, the contextualists have conceived context rather modestly. The focus has been very much on industry sectors (ie Whipp & Clarke, 1986; Child & Smith, 1987), with only passing reference to broader social structures (ie Whipp et al 1989). Moreover, the primary concern has been with how leaders mobilise contexts to bring about realignment with environments (Pettigrew, 1985a). The issue of how leaders may refuse to realign has been of secondary interest.

Whittington (1990) combines the contextualists' appreciation of structural diversity and enablement with the institutionalists' systematic recognition of broader social structures (family and ethnicity). Change and resistance to change are thereby treated

not as an engineering process abstracted from society, but rather as a matter of successfully enlisting pluralistic social structural principles to causes of either reform or conservatism: *Organisational change is often so difficult because conservative forces continue to draw reinforcement and legitimacy from a social context barely touched by change strategies internal to the firm itself* (Whittington, 1990:202). Control over strategic direction will go to those best able both to mobilise necessary structural resources for political supremacy and to manipulate structural rules that guide and legitimise action. Drawing on these two theoretical positions, Whittington (1990) demonstrates how socially entrenched strategic inertia drove two British manufacturing firms into first crisis and finally takeover. Whittington's focus is on three sets of social structures: capitalist, familial and ethnic. These structures provided a diversity of social rules and resources through the tensions both between and within these structures, the most interesting finding being that managers were able to build and protect their particular power bases and corporate cultures by exploiting this pluralistic intersection of structural principles.

Whittington concludes from his research that the practising manager requires not only institutional emphasis on society but also the contextualist's strong sense of human purpose, plurality and process. The somewhat faint recognition of purpose, plurality and process that institutionalists do concede (eg Meyer & Rowan, 1977) needs development. Meanwhile, it is a contextualist perspective that offers managers the best insight into how diverse structural rules and resources can be mobilised in change processes that are, in practice, full of conflict. However, where the contextualists are less useful is their neglect of broader social processes which make a difference to organisational outcomes (Whittington, 1992). What is called for is a more rigorously structural approach which combines the purpose, plurality and process of the contextualists with the diversity of institutionalist insights within a single framework. This framework must be consistent in language and compatible with agency and for further insight Whittington (1990) turns to Giddens' (1984) structuration theory.

A structurationist account of managerial agency is founded on the contradictions within and between different social systems. Giddens' work projects a world that possesses structure, but is neither so monolithic nor so determined as to preclude deliberate and effective action. His `multidimensional' characterisation of the modern world brings capitalist production together with the issues of ethnicity, gender, knowledge and the state. Conflicts between these dimensions, and the possibility of reflexivity and knowledge, open up a space for human agency. It is this concern to underpin agency by social structure that inspires Giddens' more abstract work on structuration theory.

To supersede the `dualism' of structure and agency, Giddens inserts the distinct concept of `system' between the two to create an interdependent `duality'. Social systems are constituted by the activities of human agents, enabled and constrained by social structural properties of these systems. Structures define both the rules - techniques, norms and procedures- guiding action, and the resources - authoritative and allocative - empowering action (Giddens, 1984: 21, 258). However, while structural properties make action possible, structures themselves have no reality except as they are instantiated in activity or retained mentally as remembered codes of conduct or rights to resources: *According to the notion of the duality of structure, the structural properties of social systems are both medium and outcome of the practices they recursively organise* (Giddens, 1984:25).

As outcome of their own activity, these structures exercise no necessary dominion over human actors. Any particular actor confronts a diversity of structures that seem quite independent of whatever they may do (Giddens, 1985:168). Moreover, the need for `ontological' security leads to routinised patterns of behaviour that unintentionally reproduce the structures of their worlds. Nevertheless, the possibility of agency is ever present, as we have potential to choose our actions deliberately and carry them through, even in defiance of established rules and prevailing powers. A diffused

notion of power is crucial to Giddens' (1984:14) concept of agency: *...to be an agent is to be able to deploy (chronically in the flow of daily life) a range of causal powers. An agent ceases to be such if he or she loses the capability to "make a difference", that is to exercise some sort of power.* Although structures distribute resources asymmetrically, Giddens (1979:149) nevertheless takes a very strong line on agency, insisting that all power relations involve some sort of 'dialectic of control'. So long as actors retain the capacity to refuse, even in suicide, they remain agents.

Giddens provides a theoretical scheme with considerable potential for understanding managerial agency. Although subject to routine and unintended consequences, organisations are capable of being governed purposively and reflexively through time. Their structural properties, the rules of conduct and allocation of resources, are drawn from the social systems in which their members participate. In line with the possibility of agency, capitalist structures of resource allocation and conduct are central, but do not have complete dominion. All organisational members participate in a dialectic of control that allows them at least the power of defiance. They also participate in other systems of activity from which they may carry into their firms quite different and often contradictory structural principles. This availability of alternative structural principles, combined with the dialectic, makes possible the deliberate and effective direction of business organisations in contradiction to capitalist rules.

Sewell (1992) critiques Giddens' definition of structure as underspecified and containing an obscure account of rules and resources. He challenges the emphasis on empirically observable social practices as comprising the "virtual" existence of structures. Instead he proposes that it is the principles that pattern these recursive practices which constitute structures, thereby lending structures their "virtual" property. This is in accordance with the Realist notion that the natural and social worlds consist of complex structures independent of empirical evidence (Bhaskar, 1978; Harre and Secord, 1972).

The notion of rules is adapted further by Sewell (1992) into that of schemas. These are defined as not formally stated prescriptions but the not always conscious schemas, metaphors and associations presupposed by such formal statements. Sewell argues that publicly fixed codifications of rules are actual rather than virtual and should be regarded as resources rather than rules in Giddens' sense. Further, given the conceptualisation of structures as virtual, resources (both human and non-human) do not sit easily as part of structures. By reformulating structure as referring only to schemas, then resources must be thought of as an effect of structures.

By incorporating a processual conception of time into Sewell's critique, one can view public rules as becoming acceptable, routinised and unconscious over time, much in the same way that a child learns the rules of social behaviour, so that over time non-human resources may become rules. Put another way, structures can reformulate themselves by the gradual transformation of resources into schemas. In this way, it is not just the enactment of the principles (schemas) that perpetuate structures but additionally the transformation of the subsequent effects of those principles into further principles governing enactment.

Whittington (1992) proposes an account of managerial agency that exploits Giddens' insight into organisations' engagement with plural and overlapping social systems. He argues that the structurationist conception of structural rules and resources offers a common framework for analysing disparate social influences - political, ethnic, domestic and professional - on managerial action. The concern for individual agency widens the research focus from concern for monolithic institutions to include both their evolutionary processes and tenacious properties. Structurationist acceptance of conflict and tension gives leverage on the problems of uniqueness and change. Finally, the relationship of particular actors to society becomes less one of passive embeddedness, and more a matter of active engagement.

In a similar vein, Sewell (1992) has proposed five key axioms to show how the ordinary operations of structures can generate transformations. These are the multiplicity of structures, the transposability of schemas, the unpredictability of resource accumulations, the polysemy of resources and the intersection of structures. Firstly, given the multiplicity of structures at different levels and the conflicting properties even within a given sphere, agents are capable of applying a wide range of different and even incompatible schemas and have access to heterogeneous arrays of resources. It is by active exploitation of the tensions between divergent structural principles that managers gain their agency (Whittington, 1992).

Second, the structural properties to which agents have access can be applied across a wide range of circumstances, even outside the context in which they were initially learned (Whittington, 1992). Therefore agency is defined by Sewell as entailing the capacity to transpose and extend rules to new contexts. Sewell sees the inherent knowledge of cultural schemas as characteristic of all minimally competent members of society.

The third axiom acknowledges that the resource consequences of the enactment of cultural schemas are never entirely predictable. Thus if the reproduction of schemas depends on their continuing validation by resources, this implies schemas will be differentially validated when put into action, and therefore will potentially be subject to modification.

The polysemy of resources suggests an array is capable of being interpreted in different ways and therefore of empowering different actors and teaching different schemas. This is inherent in the definition of agency as the capacity to transpose an extend schemas to new contexts. Thus agency is the actor's capacity to reinterpret and mobilise an array of resources in terms of cultural schemas other than those initially constituted in the array.

Last, the intersection and overlap of structures allows arrays of resources to be interpreted in more than one way. The intersection of structures takes place in both the schemas and resource dimensions. Not only can a given array of resources be claimed by different actors embedded in different structural complexes but schemas can be borrowed or appropriated from one structural complex and applied to another. This second sense of agency is argued by Whittington (1992) as the greater, for here the issue is no longer one of choosing which is the appropriate rule in particular circumstances, but potentially of defying immediate system logics altogether.

Managerial agency in the second form is possible because managers have a range of structural rules and resources by which to inspire and empower their actions. This is not a wholly voluntaristic position as managers must be able to access these alternative structural principles. Equally, it is important that those they wish to influence actually acknowledge the legitimacy of these alternative principles. Thus the social identities of both influencers and influenced do constrain. There is economic constraint as well, for if choices over structural principles are to be effective, managers need to secure for themselves sufficient autonomy or organisational slack. But as long term inefficiencies in organisations testify, managerial action need not be directed to capitalist ends. The mobilisation of other acknowledged structural properties allows the firm to be transformed into a vehicle for realising a much wider range of socially legitimate values (Whittington, 1988).

2.2.4 implications for management research

In this section a case has been made for a Realist conception of social science to resolve the dichotomy between choice and constraint in managerial action. In drawing upon the insights from Giddens' theory of structuration, writers such as Whittington have utilised the Realist paradigm as a fully explanatory account of the nature of managerial agency. There are a number of implications for managerial research which follow from this position. An account of managerial agency based upon plural social

structures entails a more explicitly sociological commitment by managerial research. Instead of treating the organisation as a discrete entity within its environment, each firm and its activities should be examined as the expression of potentially diverse structural principles. This kind of analysis is also appropriate for idiographic research into individual organisations (Tsoukas, 1989). It becomes necessary to identify the intersection within the firm of structural properties imported through multiple organisational memberships and superimposed by overlapping system boundaries. The character of key organisational actors needs to be explored, not only in terms of the internal hierarchy, but also in terms of their positions within and relations to external structures stretching beyond the organisation itself (Whittington, 1993). Identification of the firms' dominant structural properties would be the basis for understanding which pre-existing structures are actually being selected for action, and which ignored.

Understanding managers' plural social statuses, rather than just their organisational positions, should enlarge our perspective on issues of organisational leadership as well as strategic choice. From the structurationist point of view, leadership is not simply a matter of individual managers' personal psychological qualities but also dependent on the resources - capital, professional status, ethnic or gender privilege - made available by their specific social identities. Because in a plural world actors' social statuses differ, leadership is not a quality that all can equally `learn'. Managerial qualities to `lead' are uneven and leadership qualities have no universality. As Tsoukas (1994:299) writes from a Realist perspective: *The causal powers of management derive their existence from management's incorporation into the industrial structure. They `reside' in the real domain and, taken together, their logics are contradictory. The concrete effects of the exercise of management causal powers are dependent upon prevailing contingencies at the organisational or interorganisational levels.* Whittington (1993) calls for research into how individual leaders constitute and

sustain their authority within different social systems, sensitive to variations in national culture, ethnicity, political context and gender relations.

The structurationist perspective on plural social systems should also enlarge accounts of strategic choice. More than just decisions of economic efficiency, various strategic options are informed by and legitimised by differing structural principles: notions of patriotism in international decisions, different sources of social support on questions of structural codes of conduct. In this way, managerial agency can boil down to quite fundamental questions of social identity. Analysis of social structure is therefore as important as industry structure in understanding managers' choices.

The following sub-section looks at a social trend which changed a system's rules and is of key importance to the current research. It concerns the rise of the new public sector management in the UK following the Tory election victory in 1979. This trend was to prove significant in the management of water companies, particularly after nationalisation in 1983. A brief review of Pollitt's (1990) work will demonstrate the validity of a structurationist approach and suggest a framework for research.

2.2.5 the new public sector management

One of the most potent examples of the social `embeddedness' of organisational phenomena in the last decade has been the rise of managerialism in the public sector. Described as a megatrend (Hood, 1991c), a cluster of public policy authors have embarked on analyses of the last 15 years of public sector management under the Conservatives (Pollitt, 1990; Marsh, 1991; Walsh, 1991; Stewart and Walsh, 1992; Carter, 1991; Hood, 1991c; Farnham and Horton, 1993; Ferlie, 1994, 1995; Ferlie et al 1996).

Pollitt (1990) writes of the advent of managerialism on both sides of the Atlantic and its application to the welfare state. It is his work which I shall concentrate on here, for

although not explicitly structurationist, he draws on a range of social structures in support of his general argument. By managerialism, Pollitt means the set of beliefs and practices at the core of which burns the seldom tested assumption that better management will prove an effective solvent for a wide range of economic and social ills. He demonstrates how the standard beliefs and practices of management have been taken up by government in a political context which: ...*was against `planning' in favour of the market, and was accorded the highest political priority to the reduction of public expenditure.* Indeed, Pollitt terms these beliefs around managerialism an ideology in themselves, an ideology which expressed itself in opposing public sector bureaucracy and unions, and the advocation of managerialist principles in the public sector (Kooiman and Eliassen, 1987).

Of interest to the present study is the way in which Pollitt traces the history of management thought from the late 19th century to the 1990s. In particular, he traces the consequences of different managerial movements and techniques on the government thinking of the day. More specifically, Pollitt goes on to propose that the particular species of managerialism which Reaganite Washington and Thatcherite Whitehall sought to introduce to the public services in the 1980s had a certain `neo-Taylorian' character. In this way he demonstrates how government may invoke the power of a management intellectual tradition to justify government policy.
As time has gone by, managerialism has become a steadily more prominent component in policies adopted by right wing governments towards their public services. The Reagan and Thatcher administrations both came to power expounding `new right' principles: the idea that government had grown too big, too expensive and too inhibiting of individual enterprise. The most obvious outcome of this belief would be cuts in government functions. Some of these have certainly taken place. In particular, nationalised industries and some of the more capital intensive/less `face-to-face' public services (such as BT) have been sold off to the private sector: *Managerialism is the `acceptable face' of new-right thinking concerning the state. It is*

an ingredient in the pot pourri which can attract support beyond the new right itself. For that wider constituency `better management' sounds sober, neutral as unopposable as virtue itself (Pollitt, 1990). Here Pollitt puts his finger on the persuasiveness of the managerialist argument. Its attraction of support from beyond the new-right rests in the logics of capitalism which endows management with a set of causal powers intrinsically related to its nature. The notion of `better management', while appearing neutral, is really concerned with management control, implicit as the most salient characteristic of management in market economies (Tsoukas, 1994).

As Pollitt points out, given the recent history of public service expansion, the productivity logic has a power of its own which stands independently of the political programme of the new right. Yet simultaneously, for new right believers, better management provides a label under which private sector disciplines can be introduced to the public services, political control can be strengthened, budgets trimmed, professional autonomy reduced, public service unions weakened, and a quasi-competitive framework erected to flush out the `natural' inefficiencies of bureaucracy. Thus, the productivity logic, so inherent of managerial control, may be located within neo-Taylorist managerial thinking. To show that such notions had a wide currency, Pollitt draws on the recent history of public service failures which provided the Tories with a justifiable context from which to gain electoral support. Moreover, with the label of management being extricably intertwined with capitalist logics, this is a compelling foil from which to reassert government influence over the public sector.

Given the diversity of management theories and approaches, the crucial question for Pollitt (1990:49) becomes that of which strands of managerialism are actually to be adopted and implemented. A structurationist perspective would seek to understand the various management practices and thinking which had influenced government policy and to demonstrate how this was manifest in policy outcomes.

A framework for research into the effects of the NPM upon organisations and sectors should have a historical perspective, whereby the structural principles, key organisational members and the firm's structural properties were set in the context of both traditional and new public sector systems. In this way, a public sector organisation would be investigated at two points in time, within the context of historical changes at the sector and wider societal levels.

In the first instance, the social influences upon the sector level would be explored. The basic structural principles inherent within the NPM trend and those fundamental to the traditional public sector management (TPM) would be compared, so that, for instance, the key social systems of both being located in the intellectual social system, the dominant structures of academic managerialism in NPM and professionalism in TPM could be compared. These structures would each have their own unique rules and resources to draw upon highlighting their different orientations. In order to understand the political shifts from one system to another, one would need to investigate the overlapping system boundaries for TPM, eg the political and economic, and to explore how developments within these systems led to contradictions, both internally and between each other, which paved the way for a new intellectual system for the public sector. Additionally, one would be interested in the rules and resources exploited from other systems to empower or legitimise the institution of the NPM. Ultimately, these investigations would reveal the differences between the two systems, viz the structural resources available to act according to particular systems' rules and the particular rules and practices which gave inspiration to these social systems.

At the organisational level we are interested in key organisational members and the dominant structural properties of the firm. Key organisational members are not only important in the positions they hold but also in their relations and positions to external structures beyond the organisation. So, for instance, how do managers' experience and affiliations differ under the NPM compared with the TPM? To this might be added

questions about the management styles these engendered and the resultant working practices. If leadership depends upon resources, how do leaders from within each system constitute and sustain their authority? Then at a deeper level, what are the characteristics of the social identity of the two types of managers which provide the structural principles to inform and legitimise strategic choice?

Also at the firm level, we need to assess the dominant structural properties called into play during resistance and/or uptake of the new managerialism. So as the new social system was proposed, which of its elements were initially embraced or discarded? If there was resistance to the new system, what structural properties were invoked to challenge and which contradictions highlighted? Conversely, during the change period, which structural contradictions were exploited by the change agents and to which wider social structures did the use of symbolism make an appeal? In this way one can systematically explore the social structural influences which may contribute to organisational change and engender resistance. Furthermore, a structurationist account is conducive to an understanding of social change and its ramifications within individual organisations.

2.3 Organisations and Time

The emphasis of this research is historical and processual and, as such, the influence of time is vital. An early interest in the historical development of organisations appeared in the writings of Chandler (1962) who gave an account of the evolution of strategy and structure in American business. His key finding that strategy follows structure is still an issue of debate within management studies. Of less account is any concern with the effects of the multidivisional structure on power relations, or the endurance of the multidivisional form despite organisational inefficiencies. In a later study, Chandler (1977) concluded that the historical conditions which prevailed in the United States accounted for a pattern of development of managerial capitalism which

differed from that experienced in other industrialised countries such as Britain, Germany and Japan.

Several other organisational researchers have noted the importance of history in determining future organisational actions. Stinchcombe (1965), Kimberly (1979), Lawrence (1984) and Zald (1987) argue that an organisation's history is crucial to its future development and that organisations can only be understood in light of their early phases and subsequent evolution. Selznick (1957) described how early political and social processes largely determine organisational strategy and patterns of subsequent activities. Boeker's (1989) research into the founding strategies of semi-conductor manufacturers and events subsequent to founding showed these original strategies play important roles in either limiting or encouraging strategic change.

Much of this writing stresses the importance of understanding events, strategies, political and social processes at founding, and that organisations or industries perpetuate the characteristics prevailing at the time of their foundation. This research echoes these calls by investigating two Water Authorities at their formation. If past organisational strategies have a bearing on the present, the logical place to begin an investigation of the determinants of strategic change is the earliest phase of an organisation's history, its founding (Romanelli and Tushman, 1986). Directing attention to an organisation's founding also highlights the importance of history in determining future actions (Hannan and Freeman, 1977).

Further, in touching on political and social processes Selznick is referring to the amalgam of concepts known as culture. The importance in understanding the influence of predecessor organisations in the water industry has been key in this research and, as such, the influence of culture is of significant interest. In particular, its importance to organisational history as the seat of memory has been highlighted by Walsh and Ungson (1991). They note how culture embodies past experience that can

be useful for dealing with the future. This learned cultural information is stored in language (Donellon, 1986), shared frameworks (Duncan and Weiss, 1979; Shrivastava and Schneider, 1984), symbols (Dandridge, 1983: Wilkins, 1983), sagas (Clark, 1972) and the grapevine (Davis, 1953). The fact that this information is collectively retained in the transmission process (ie, the sharing of interpretations) is an important aspect of the retention facility. Information, then, is housed in this supraindividual collectivity (Douglas, 1986; Halbwachs, 1950/1980). It is this facility for shared information in the ongoing influence of the predecessor organisations which will prove so significant in subsequent chapters.

Information about the past can therefore be stored in an organisation (Douglas, 1986; Kantow, 1987) which has important implications for research into organisational histories. Earlier theorists postulated organisational memory as embodied in standard operating procedures (March and Simon, 1958). Later theorists viewed organisational memory in terms of structural artifacts (eg roles) that, over time, lose their efficacy and become obstacles to change (Starbuck & Hedberg, 1977). A number of theorists have attempted to list its contents (Argyris & Schon, 1978; Daft & Weick, 1984; El Sawey, Gomes & Gonzalez, 1986; Hall, 1984; March & Olsen, 1976).

Walsh and Ungson (1991) take an information processing approach to organisational memory in which interpretative systems (Burrell & Morgan, 1979; Daft & Weick, 1984; Weick, 1979) or beliefs are responsible for differences in organisational action. The ontological basis underlying Daft and Weick's (1984) concept of interpretation systems is the organisation as a network of intersubjectively shared meanings that are sustained through the development and use of a common language and everyday social interactions (Burrell & Morgan, 1979). In this way memory is a concept that an observer invokes to explain a part of a system or behaviour that is not easily observed (Krippendorf, 1975), rather than a variable that is interrelated with other variables to produce particular outcomes. It is organisational memories, not variables with

dispositional properties, which have discrete causal effects on, say, structure and technology.

In Walsh and Ungson's (1991) approach, memory is seen in terms of information acquisition and to take place at both the individual and collective levels, thereby accounting for both forms of agency. Further, the structure of organisational memory is seen to be composed of individuals, culture, transformations, structures, ecology and external archives. These `internal bins' vary in their capacity to retain decision information and the relative sophistication of form which this takes. The significance of this work is the direct link it draws between memory and subsequent organisational action, as opposed to the more common attribution of causal powers to situations (eg roles), objects (eg balance sheets) or events (eg competitor moves). In this way, memory is placed above these things to occupy a more significant role in the production of agency. Less clear is the relationship between the individual `information bin' and the cultural or structural. For instance, memory of administrative systems may be a mechanism for impounding and preserving knowledge (Jelinek, 1979:162) but what is the process whereby the individual acquires the power of agency? As Whittington (1988:531) critiques of the Carnegie school's action determinism: *Action is programmed according to past events imposed upon actors by an uncontrollable environment.* In this way choice is constrained because this type of theorising: *...fails to interrupt the ineluctable process of its `feedback react' systems by any possibility of autonomous control over either programme or environment. Its actors possess neither the essential integrity nor the internal complexity capable of supporting genuine human agency.*

Thus, individual actions are explicable purely in terms of the internal states they bring to their situations and the environmental stimuli generated by these situations. There is no account for creativity, innovative or conservative choices. Much of this kind of literature is really historical and behaviourally deterministic, giving neither adequate

accounts of agency or the wider social context. Moreover, all these studies in their micro-perspective on history neglect the critical element of time. We are no wiser about the effects of the rate or pace of change on organisational life, or of the actions of organisational members through time. Additionally, the emphasis on the constraints imposed by history lock organisational members into a deterministic past.

What is called for in historical analyses is less of a preoccupation with the content of organisational action at two points in time (eg at founding and future time), and more concern with organisational processes through time. A process view of organisational history needs to recognise and distinguish between temporal modes to account for Ranson et al's (1980) concern with perspective. For this it is appropriate to consult the eminent historian Braudel (1973), who has distinguished between three temporal modes: "eventments", the events, incidents and episodes, the contemporaneous pieces of flotsam which "blind the eyes" and dominate the present (Braudel, 1981:560); "conjunctures", the medium term movements of population, trade cycles, transitions in political domination; and "structures", long-term durations of geographical and cultural patterns. Thus, in organisational terms one would be as much interested in the micro-events of decision making and product development as the medium term developments in industry structure and the long term durations of capitalism and social culture. What does require emphasis is the interconnectedness of events or the "dust of history":*...little facts which do it is true, by indefinite repetition, add up to form linked chains. Each of them represents the thousands of others that have crossed the silent depths of time and endured* (Braudel, 1981:560).

This conceptualisation echoes Sztompka's (1991) careful exposition on the nature of human history. However, he goes further in conceptualising human history as the combination of eventism and developmentalism, thereby arriving at a dialectic he terms processualism. Here no reified or metaphysical qualities are ascribed to history and no specific substance. Its ontological existence is located solely in the area of

events whose causal interrelation and influence on each other produce a pattern or regularity among them. Moreover, these events are sequentially ordered, linked in multiple chains of causally related episodes over time. The sequences are cumulative; earlier episodes leave a residuum, imprints or memory traces, which enter into initial conditions for later episodes and are passed on in a new context. Therefore the present is always not merely chronological but linked to the past.

The dynamics of history is explained by the definition of an event, which Sztompka interprets as an actual manifestation of the social fabric and borrows from Marx, Gramsci and Lukacs, the term `praxis'. This is where operation and action meet, the confluence of operating structures and acting agents, the momentum of the operation being caused by the actions of social members. As Archer (1986:22) has written of agency: *...structure and action operate over different time periods...structure logically predates the actions that transform it and structural elaboration logically post-dates those actions.* History may therefore be seen as an endless sequence of: social events (T1) influencing structures and agents (T2) which in turn modify agency (T3) and result in the potential for changed praxis (T4) and so on, in the incessant cumulative transformation of society. Continuity is due to the indirect mediation of conditions produced by earlier praxis as the foundation of later praxis. Change is the gradual transformation of praxis over time. Braudel's differing temporal modes may now be seen as arising out of this cumulative process of history.

In adopting a Realist perspective which insists upon the importance of pre-existing structures, we must also be mindful of their inherent dynamics over the course of time. Structures, having no reified status, are subject to the influence of agents whose changed form in turn influence agents and structures. In this way: *...history loses its imposing structure as something far above the mundane realities of everyday life. Quite simply it is everyday life, coalescing in sequential patterns of gradually growing complexity* (Sztompka, 1991:71).

Researchers must be sensitive then to the processual, cumulative nature of history, to the levels of analysis and the differing temporal modes, by which events form patterns. Whipp (1995) has outlined some examples of the plurality of time at different levels in the context of organisational change. The implications for organisational analysis lie in ascertaining the significance of temporal modes or praxis, about which events make a difference to the long term pattern. The task of the researcher lies in tracing the interconnections between events and between temporal modes, thereby ensuring that organisational processes are analysed in context and through time. The limited cross-sectional nature of what passes for much historical research has as its chief failing the capacity for distortion, either of the capabilities of actors, or of the determination of the environment. It is therefore important to be aware of perspective in the single level study. Researchers must be honest about sacrificing depth of context for a micro study, or the foreground of action for a macro analysis and own up to the limitations of their research design.

2.4 Organisational Development

A concern with time must of necessity include organisational development and the tracing of developmental patterns through time. This section will focus on the processes of organisational dynamics and with the temporal patterns in organisational continuity and change. In particular, the punctuated equilibrium model is shown to have a powerful descriptive and analytical force when combined with a process theory of history. Next, the role of culture and its subset ideology will be explored as implicated in the development process. In keeping with a structurationist approach, the concern will be to assess the explanatory force of the literature and its relevance to social phenomena.

2.4.1 continuity and change

In understanding organisational development a theory of organisational evolution is required. There have been a number of different approaches in the research literature around the theme of birth, growth, and evolution of organisations. Pettigrew (1979) notes three approaches: change with organisational size, phases or crises of development and processes of character formation in birth and evolution. Although the latter has been covered in the previous section it is intended to focus on the second approach as well as the development of organisational character.

Greiner (1972) notes the existence of periods of revolutionary and evolutionary change. Tichy (1983) identified three organisational cycles in a dialectical relationship. Starbuck (1968) distinguished metamorphic from oscillatory theories, Mintzberg (1978), Miller and Friesen (1982) and Miller (1982) distinguished quantum from revolutionary and evolutionary change. All see strategic change occurring in spurts, revolutionary periods, or quantum leaps, each followed by a period of continuity. Pettigrew's (1985a) ICI study provided confirmatory data, both of the waxing and waning of particular strategies in the firm and for the tendency of strategic changes to occur in radical packages, interspersed with longish periods of absorbing the impact of revolutionary action and then coming to terms with the fact that further changes are eventually necessary. What all these authors acknowledge is the fact that organisations are continually changing (Child and Kieser, 1981). But as Pettigrew (1986) notes, what such: *...authors do less precisely is to develop a process theory which links together the periods of high levels of change activity and low levels of change activity and thus begins to explain the timing, content and real time intensity of those periods.*

A more precise theory of organisational evolution is provided by the work of Tushman and Romanelli (1985, 1986 and with Newman 1986) who propose a punctuated equilibrium model in which organisations evolve through convergent

periods, punctuated by reorientations or recreations which demark and set bearings for the next convergent period. The value of the punctuated equilibrium paradigm has been highlighted by Gersick (1991) who draws on six models from diverse domains which reflect its basic premise. Its value is in reconciling conflicting theories of organisation environment interactions, particularly the incremental, transformational and ecological approaches to organisational evolution. Meyer, Brooks and Goes (1990) have also used the punctuated equilibrium paradigm to explain industry level changes in the hospital industry.

Convergent time periods refer to relatively long time spans of incremental change and adaption which elaborate structures, systems, controls and resources towards increased coalignment. Tushman and Romanelli (1985) show how strategic orientation, particularly in the new firm is maintained in convergent periods by alignment with internal activities, thus providing the inertial properties of these periods. Similarly, Johnson (1988) attributes inertia during incremental strategy making to the current organisational paradigm. Further, Tushman and Romanelli (1985) argue, where change is incremental and strategy adaptive, middle management is seen to be the pivotal force for organising.

Discontinuous change in strategy, manifest in the distribution of power, the firm's core structure and the nature and pervasiveness of control systems, disrupts the convergent period to form a reorientation. Reorientations are relatively short periods of discontinuous change where strategies, power, structure and systems are fundamentally transformed towards a new basis for alignment. Where middle management interpolates structures and systems during convergent periods, executive leadership mediates between internal and institutional forces for inertia and competitive forces for fundamental change. It is executive leadership which initiates, shapes and directs strategic reorientations. A reorientation is distinguished from the more fundamental changes engendered by recreations. This type of discontinuous

change has more profound consequences for the organisation by changing core values which govern decision making. Thus reorientations, in punctuating the ongoing processes of convergence, define the end of one convergent period and usher in the next.

The punctuated equilibrium model is of value to this research, not only because it provides a more precise description of evolution, but also because it establishes a patterned framework from which to orient organisational processes. Even greater explanatory force for temporal sequencing may be found in wedding this model to a processual theory of history. In this way the founding of an organisation may be conceptualised as the agential outcome of the influence of social events upon structures and agents. For example, social interest in entrepreneurism during the 1980s, influenced by Tory ideology and small business investment grants, may well have inspired would-be entrepreneurs to found their own business. In a similar vein, organisational continuity will be influenced by the founding experience, such that entrepreneurial learning and positive experiences may influence subsequent praxis and result in actions which increase the coalignment of internal systems.

Reorientations could be seen to occur where the interactions of the entrepreneur and their business produce effects dissonant with outcome expectations, thereby resulting in the potential for changed praxis and subsequent discontinuous change. A recreation is change of a different magnitude, involving fundamental shifts in core organisational values. One could postulate, in this instance, a sequence whereby entrepreneurial actions in maintaining organisational continuity were changed by a social event such as new legislation. The threat of legal retribution mobilises a changed praxis whereby radical changes to organisational systems, and subsequently culture, are implemented. These changes in themselves effect further changed praxis, thereby reaffirming changed values.

2.4.2 culture and organisational development

A developmental model which is explanatory of agency requires a more detailed investigation into the character and significance of convergent and change periods and the role of organisational members. Much of the literature in this area has focused on the notion of culture and ideology, concepts which are helpful in introducing a wider society into organisational processes. One of the implications of the punctuated equilibrium model is the 'natural' tendency of organisations to converge: that is, to seek stability and incremental change. The change literature makes explicit that much resistance to organisational change is to the change process itself rather than what it entails. Clark and Starkey (1988) characterise these as 'slow change models', thus as Gersick (1991:18) elaborates: *The sunk costs incurred during a period of equilibrium and fears of losing control over one's situation if the equilibrium ends, contribute heavily to the human motivation to avoid significant system change.*

The nature of organisational inertia has been discussed widely in the change literature in terms of cultural resistance. As Tushman and Romanelli (1985:177) suggest: *...even if a system overcomes its own cognitive and motivational barriers against realising a need for change, the networks of interdependent resource relationships and value commitments generated by its structure often prevent it being able to change.* Here, Tushman and Romanelli hint at motivations not purely economic, although these are located firmly within the sphere of the organisation and the sector. The resistance to organisational change may be seen in the light of the dismembering of organisational values, assumptions and paradigms - in effect ideologies or belief systems which underpin organisational members working practices and working life (Pettigrew, 1986; Jonsson and Lundin, 1977; Starbuck, Greve & Hedberg, 1978 and Brunsson, 1982). It remains to describe the nature of these belief systems with greater analytical force.

Culture has been the subject of much interest (Allaire and Firsirotu, 1984; Smircich, 1983) but is an amorphous concept and needs defining and analysing if it is to be used to explain phenomena more precisely. It has been defined as a learned way of perceiving, thinking and feeling about problems that is transmitted to members in the organisation (Schein, 1984). Wilkins and Dyer (1988) define organisational culture as socially acquired and shared knowledge that is embodied in specific and general organisational frames of reference: a view consistent with a stance toward culture developed by symbolic interactionists, such as Becker, Geer, Hughes, and Strauss (1961), Blumer (1969), Strauss (1959) and Silverman (1970), and reflected in the more recent writings of Van Maanen (1979a), Louis (1983) and Schein (1984), Barley (1983), Whipp, Rosenfeld & Pettigrew (1989) and others. Wilkins and Dyer distinguish between specific and general frames of reference, or situation-specific frames and general organisationally relevant concerns between groups and the organisation as a whole. Wiener (1988), in a similar vein, views culture as a shared value system in which internalised normative beliefs are held in common by organisational members. Shared meaning is emphasised by Pettigrew (1979) in defining culture as a system of terms, forms, categories, and images which interpret a people's own situation to themselves.

2.4.3 ideology

An analysis of cultural forms of expression in organisational development has been tackled in the management literature in various ways. From an organisational perspective cultural dimensions have been explored by Ackerman (1984), Deal and Kennedy (1982) and Sethia and Von Glinow (1985) using two-by-two matrices made up of organisational variables such as decision-making style, organisational structure, leadership style and reward system. Johnson (1988) sees it as an amalgam of the cognitive, cultural and political in organisations. Other writers have borrowed from anthropology (Pettigrew, 1979; Whipp, Rosenfeld & Pettigrew, 1989) and emphasise logics of action, language, metaphor and myths.

Pettigrew (1979) has pointed out the lack of analytical bite in the cultural literature. He sees an analytical route in cultural analysis by regarding culture as the source of a family of concepts: symbol, language, ideology, belief, ritual and myth. Under symbol can be grouped language, ritual and myth, being the most inclusive category. Ideology is defined after Wilson (1973:91) as a set of beliefs about the social world and how it operates, containing statements about the rightness of certain social arrangements and what action would be undertaken in the light of those statements. Clark (1972) highlights the potential of ideology to reinforce beliefs: *Stories about organisations' histories contain ideological parables that express, enhance and codify beliefs, and ideologies provide rationales for repeating and embellishing the stories.* Dunbar, Dutton and Torbert (1982:91) see ideologies as shared beliefs which reflect the social experiences in a particular context at a particular time. Ideologies are used to interpret, evaluate and understand all ongoing activities, so their importance is pervasive. They make the strong point that: *Indeed, ideologies are to social organising as paradigms are to scientific practice.* Similarly, Pfeffer (1981) and Johnson (1988) describe the common perception of reality by organisational members as a shared paradigm. Further, organisational ideologies provide historical continuity in the way they: *...link the past and the future, lend dignity to everyday activities, and elicit members' commitment by transforming formal organisations into beloved institutions* (Meyer, 1982:47).

The role of language in supporting shared beliefs has been highlighted (Pettigrew, 1979; Pondy and Mitroff, 1979; Meyer, 1982; Pfeffer, 1981; Whipp et al, 1989). According to Meyer (1982) organisational ideologies manifest themselves in linguistic symbols and his research educed ideologies from language in the metaphors and analogies that organisational members evoked. Similarly, Pfeffer (1981) has pointed to the professions as an example of the use of specialised language to develop a common identity in the socialisation process. Whipp et al (1989) make the important

observation that the implicit rules of order in organisational beliefs are embedded in language.

Both symbol and language have as one of their key attributes their potential for compelling action (Pettigrew, 1979). Ideology too can play a significant role in the processes of organisational creation because it has the potential to link attitude and action. According to Pettigrew, ideology can mobilise consciousness and action by connecting social burdens with general ethical principles. The result is that a commitment is provided to perform everyday organisational tasks on the way to some grand scheme of things. Pollitt (1991) also argues that ideology can, and often does, provide the justification for some particular course of action. In a similar vein, Brunsson (1982) sees ideologies as fulfilling the function of decisions. In doing so they simplify choice and liberate actions. The interest for this study is the role played by ideology in organisational development.

2.4.4 ideology and organisational development

Meyer (1982:60) emphasises the advantages of potent ideologies: *They engender devotion, create elan, lend drama, and accord dignity to everyday activities.* He goes on to distinguish their function as an internal gyroscope during tranquil periods, and as enabling unorthodox manoeuvres during a crisis. Meyer also makes the link between ideology and organisational structures. Simple structures are accompanied by harmonious ideologies while elaborate structures are accompanied by discordant ones. Ultimately his research suggests that coherent ideologies can supplant structures.

The literature suggests that the more heterogeneous an organisation's ideology, the more likely organisational change will be radical (Meyer, 1982; Friedlander, 1983). Thus, organisational ideologies act as both inhibitors and precipitors of change. Jonsson and Lundin (1977) argue that organisations periodically jump from one predominant ideology to another in myth cycles, and that radical changes have to be

preceded by and initiated by ideological shifts. Belief in a dominant ideology is strong under normal conditions and a dominant ideology questioned only during a crisis. As Johnson (1990) has pointed out, the problems of managing major change are closely linked to the cognitive and cultural dimensions of an organisation. Wilkins and Dyer (1988), in distinguishing between revolutionary and evolutionary change episodes, link these to high and low frames of organisational reference to produce eight patterns of cultural change.

Ideological change occurs as a result of a combination of externally driven crises, shifts in leadership and the properties of ideologies themselves (Brunsson, 1982). The most stable ideologies are those which are vague and widely applicable; sharper, more definite and particular ideologies are easier to question and eventually debunk in face of changing reality. Further, an ideological shift has to be completed before radical action in the change sphere can begin. Thus in Pettigrew's (1985a) study of ICI, he shows how crucial in the precrisis period, is the process through which the dominating ideology nurtured in earlier contexts is first challenged and then changed. Therefore, changing business strategies has to involve a process of ideological and political change which eventually releases a new concept of strategy which is ideologically acceptable within a newly appreciated context.

A common theme in the literature is of culture as a shared organisational construct and the product of consensus. This has been criticised by Knights and Willmott (1987) who argue for a critical study of culture and symbolism. In this way, they conceive of culture as the precarious outcome of a continuous process of contestation and struggle. Thus organisational researchers should concentrate their analyses on issues of power and control. They utilise structuration theory to show how culture and symbolism may express asymmetries of power in their meaning. From this perspective researchers are interested in understanding how, in the production of

culture, actors draw upon the properties of structure (rules and resources) and, in doing so, reconstitute both these structures and themselves.

What all these cultural writings allude to but are less clear about is the specifically social nature of culture. Although defined in social terms, culture is concentrated at the organisational level. As Whittington (1990:201) points out: *Rarely, however, do these accounts trace the roots of such organisational phenomenon out to their origins in society at large.* Similarly, Willmott (1987), Meek (1988) and Mills (1988) have variously complained, the foundations of organisational power and culture in such structures as capitalism or patriarchy are particularly neglected. Whittington argues that the failure to recognise the social `embeddedness' (Granovetter, 1985) of organisational phenomena has serious implications for the management of strategic change. It risks underestimating the force of organisational conservatism at the same time as circumscribing the search for appropriate `levers' (Tichy, 1983) for change.

Moreover, Whittington (1990) emphasises the plurality of social systems from which symbolic and cognitive structures are drawn, thereby accounting for the holding of highly diverse values and beliefs within any one organisation. This view is supported by Whipp, Rosenfeld and Pettigrew (1989) who see culture as a collective term, but eschew the notion of homogeneous organisational cultures, seeing it instead as a collection of concepts which embrace the diversity of expression. Further, they acknowledge the existence of different cultures within organisations (Gregory, K, 1983; Pettigrew, 1985a; Whipp & Clark, 1986:42).

Whipp et al (1989) make the important point that culture is more than simply the conditioning device of much of the change literature. Rather, it has a dynamic quality as both the shaper of human action and the outcome of a process of social creation and reproduction. The interactions between the members of an organisation reshape the structures within which they take place (Knights and Willmott, 1987). Culture thus

appears not necessarily as a barrier to action but `essentially involved in the production of life' (Dunbar, Dutton and Torbert, 1982; Gregory, D. 1982; Thompson, 1968; Whittington, 1990). The temporal dimension is important here as this production relies on a `continuous re-creation of shared meaning' (Jelinek, et al, 1983:335). But in order not to dissolve into historicism a sructurationist perspective is necessary to acknowledge the possibility of agency via the contradictions inherent in social structures.

In the context of a structurationist perspective, the aetiology of organisational ideologies is of particular interest. From which social structures do organisations draw the inspiration, logics and value systems which inform their particular sets of ideologies? How are changes in the wider social environment implicated in organisational change? As has already been made clear, it is the sociological literature which has made the most attempts to establish cultural links between organisations and the wider society. Much of the management literature on cultural influences external to the firm has concentrated at the industry level.

2.4.5 industry and culture

Reynolds (1986) has decried the lack of systematic studies of the factors affecting organisational culture. He has suggested that one of the key factors to be considered in studies of organisational culture should be distinctive industry norms: *...different technologies and organisational structures...develop in different industries. Relative success in a given industry may be associated with a distinctive organisational culture, but may be quite different from the culture found in successful organisations in other industries. To expect the same sociostructural system, cultural systems, and organisational participants to foster success in all industries seems quite naive* (p344).

The significance of Reynolds' work lies in his attempt to account for the diversity of cultural expression and hence the futility of prescriptive studies on *the* successful culture. He is not explicit in suggesting the existence of an industry culture per se, rather, he has utilised sociostructural system concepts (Allaire and Firsirotu, 1984), based on his review of contemporary writings, to arrive at a set of dimensions by which to test for cultural differences between industries. In this way he has worked back from the organisation to the industry but has not extended his writing to include industry-level influences.

Gordon's (1991) central argument is more explicitly industry related. Organisations are founded on industry based assumptions about customers, competitors, and society, which form the basis of the company culture. From these assumptions, certain values develop concerning the "right things to do" and consistent with these values, management develops the strategies, structures, and processes (forms) necessary for the company to conduct its business. Other values, which are unrelated to the basic assumptions, may develop. In order for a new company to survive, both culture and the forms that it develops must be appropriate to the industry imperatives, and under these conditions the company's survival and prosperity are limited only by that of the industry's.

This notion of industry-level culture is supported by the work of Whipp, Rosenfeld and Pettigrew, (1989) who argue that the concept of culture can be linked to a sector because if an industry is a collective categorisation of firms, then it is entirely logical for certain shared beliefs and assumptions to emerge from the relations between enterprises. This is supported by the work of Grinyer and Spender (1979), Huff (1982), Spender (1986) and the cognitive based work on strategic groups by Porac, Thomas and Baden-Fuller (1989), Porac and Thomas (1990). Some authors have discussed organisational development and change in the context of industry level developments and the influences from one level to another. Huff (1982) emphasises

an industry oriented view of strategy in which a pool of strategic concepts is held by a group of organisations in common at any one time. Pettigrew (1986) echoes this in contending that business strategy is likely to be rooted both in idea systems institutionalised in an industry sector (Grinyer & Spender, 1979) and represented in the values and structures of powerful groups who control the firm in any sector.

Spender (1989) coined the term `industry recipe' to account for the behaviour of firms in three different industries. Not only is the `recipe' a means of coping with uncertainty but also part of the overall organisational response to practices, technology, public policy, legislation, etc. Spender makes the important point that recipe change occurs because of what happens to companies, not the industry itself, thereby giving agential primacy to individual organisations. Shortell, Morrison, and Friedman (1990) offer a different perspective in terms of the impetus for change. Their analysis of the American hospital industry over a three year period explained organisational behaviour under periods of rapid environmental change. The findings of this research show industry level changes to be tightly interwoven with organisational change and furthermore that the aetiology of organisational recreations have their genesis in external political and ideological influences. From these researches one could conclude that organisational change may be instigated at the industry level but that a change in organisation idea systems required the subsequent transformation of the organisation. This reinforces the process view of history (section 2.2) whereby an event at the industry level influences the praxis of organisations with their industry, thereby creating the potential agency for organisational change.

Culture may be seen to serve as a mirror to beliefs prevalent within an organisation's industry. Industry-driven assumptions lead to value systems that are consistent with these assumptions, and these value systems prevent the company from developing strategies, structures, or processes that would conflict with these assumptions and be "antagonistic" to the culture (Gagliardi, 1986). However, within the context of

industry assumptions, various compatible strategies, structures, or processes are available. Thus, the culture is not deterministic of specific forms, but exerts an influence upon the nature of the forms that will be developed.

The importance of sector research is to draw upon the wider social, political and ideological influences from which agents may draw resources and inspiration. In particular, Whipp et al (1989) have emphasised the importance of sector level cultural features as an important source of alternative cultural traits to a monolithic national culture. While the study of culture is a useful inroad into the social context of organisations, nevertheless, current management studies suffer from considerable lack of explanatory force. The focus tends to be on the nature of beliefs, assumptions and value systems but little attempt to locate their social structural roots. Rarely do notions of collective industry beliefs or recipes go beyond the circumscribed nature of the sector, ie strategies, interorganisational relationships etc. Moreover, the agency of individual managers is subsumed within the industry belief system. Little account is given for a plurality of held beliefs or even beliefs held contrary to industry norms. A structurationist perspective is required to account for industry values, say in terms of professional codes or social ethics. For beliefs and assumptions to be traced out to ethnic or familial structures and for recipes in the logics of capitalism. A structurationist view holds that there can be no reified structure determining change but that individual managers may face structural constraints. Nevertheless change (agency) is possible because of the ability of agents to exploit the inherent contradictions of and between social structures. The diversity of social structural roots make for a plurality of beliefs as well as the possibility of change.

Whittington (1992) argues that a sociological perspective should add a societal dimension to current interest in these writings, at both organisational (Johnson, 1990) and even industrial levels (Spender, 1989). For symbolic and cognitive structures are not created de novo within particular organisations or industries, but woven from the

structural materials of local social systems. As a manager's particular status within immediate social systems defines the symbolic resources at his or her disposal; studies of organisational culture should, therefore, not be made in isolation from the broader societies in which they are set, but rather explore the linkages between particular organisations and the social structural positions of their members.

A meaningful account of the pattern of organisational development has been provided by a synthesis of a processual notion of history with the punctuated equilibrium model of change. The character and significance of continuity and change periods is marked by the powerful influence of organisational culture and its particular expression in ideology. Ideologies can be seen to derive potential for action from their inherent dynamics which perpetuate belief systems. A shared ideology has been demonstrated within organisations and between organisations at the industry level. Ideology can be seen to be rooted in a plurality of social structures and as part of a dynamic dialectical process. Thus ideologies are not static and within the context of organisational development one can posit the trajectory of one or more cultural ideologies over time. The waxing and waning of ideology must be seen in the context of the social structural rules and resources available to managers and their choice to exploit them.

2.5 Organisational Processes

This section is concerned with the micro-processes of organisational life: specifically, how it is that important signals external to the organisation are interpreted and acted upon, or not. This subject area brings together organisational environments with the possibility of action and change, thereby coming full circle in this literature review. Beginning with some definitions of strategic issues, this section then reviews the various approaches to this topic and discusses a model for strategic agenda building. A critique and suggested framework for research follow.

2.5.1 strategic issues

Strategic issues are often conceptualised as an emergent property of the environment. They have been defined as *events, developments or trends that have potential consequences for an organisation* (Dutton and Webster, 1988:663). Much like Braudel's eventments, strategic issues may be seen to contribute cumulatively to the pattern of organisational development and include opportunities, threats and problems (Dutton and Ottensmeyer, 1987). Strategic issues are often ill-structured and ambiguous (Lyles, 1981; Milliken, 1987) and require an interpretation effort (Daft and Weick, 1984; Mintzberg et al, 1976). They are external events which potentially have a significant impact on an organisation's strategy (Ansoff, 1980), to which managers must respond. In a similar vein Milliken (1990) has defined strategic issues as environmental change, posing an on-going problem for top level managers. In order to maintain a stable level of performance, managers must not only notice changes in their organisational environment but also decide whether those changes are important enough to merit some adoption in an organisation's strategy or design (Weick, 1987).

The above definitions are representative of teleological models which focus on designing prescriptive techniques such as strategic issue diagnosis (Dutton et al, 1983; Dutton and Duncan, 1987a, 1987b), environmental scanning and intelligence gathering. The concept of strategic issues first appeared during the evolution of strategic planning. By analysing environmental trends and prospects, forthcoming developments either inside or outside the organisation could be incorporated into the annual planning process (Ansoff, 1984). This activity later split from planning altogether as being either too cumbersome or expensive. At this point strategic issue analysis became an activity in its own right.

This logical rational approach to knowledge acquisition accords with contingency approaches (section 2.1.2) for systems and structure to adapt to the environment (Lawrence and Lorsch, 1967). This is reflected in the prescriptive literature on crisis

and issue management. This writing has focused on crisis prevention and preparation (Marx, 1986; Gattorna and Day, 1986; Ramanujam and Venkatraman, 1985; Crane 1987; Miller 1987; Blair, 1986; Ullman, 1986; McDowall and Ladd, 1985), planning to prevent crises (Tierno and Sonnenberg, 1988; Brandt, 1988; Morris, 1989; Ramee, 1987; Fink. 1986; Beaudoin, 1988; Starks, 1989; Dansker, Hansen, Loftin and Veldwisch, 1987; Sampson, 1989) and risk assessment (Newman, 1989; Botswick, 1987; Meyers and Langhoff, 1987; Reilly, 1987). These studies usually assume crises are negative events. This has been challenged by Meyer's (1982:535) study of hospital reactions to a doctors strike. His crucial finding was that: *...sudden changes are ambiguous events that also benefit organisations. By plunging organisations into unfamiliar circumstances, jolts can legitimise unorthodox experiments that revitalise them, teach lessons that reacquaint them with their environments and inspire dramas celebrating their ideologies.*

If one accepts Dermer's (1990:70) definition of an issue as `any proposal for stability or change about which there is a difference of opinion', this recognition of the conflict inherent in different interpretations of the environment is useful on two counts. Firstly, ambiguous information such as state uncertainty is more prone to perceptual biases leading to differences of opinion. Secondly, cause-effect ambiguity leads to political maneuverings in organisations with different individuals or groups taking positions on the alternative possibilities (Pettigrew, 1977). Therefore, any account of organisational processes around strategic issues must make reference to cognitive and political processes. The interpretative literature has largely focused on the diagnosis, interpretation, and processing of issues. This is very much in the mould of phenomenological and cognitive approaches, whereby understanding, interpretation, or the process of translating data into knowledge and understanding, should hold a prominent place in any attempt to understand organisational change or learning (Daft and Weick. 1984).

2.5.2 strategic issue diagnosis

Dutton, Fahey and Narayanan (1983) outline a framework for discussing strategic issue diagnosis (SID) based on the literature from strategic management, cybernetics and organisational theory. The critical components of SID (inputs, process characteristics, outputs) are drawn from systems theory. The outputs of diagnosis constrain the domain of strategic alternatives, they serve to mobilise behaviour or political forces towards action and have potential impact on the course of future diagnosis. On the input side they note the impact of enduring cognitive maps and political interest of participants. These cognitive and political links influence the involvement and motivation of SID participants and the interpretation of issue related data.

The model suggests SID is a complex process: emergent, dynamic and fluid at the individual and collective levels. The incessant interplay between these two levels is captured by characterising SID as recursive, retroductive and hetarachic. Thus implying a high degree of indeterminancy and non-linearity is inherent. This view of diagnosis as patterned complexity, is amenable to empirical research provided the researcher adopts a focus beyond the decision frame.

This systems framework for SID is taken up by Wallace and Cooke (1990) who utilise the same critical components in an emerging issue diagnosis (EID) model of accounting regulation. They theorise that the process by which emerging issues are transformed from an idea to corporate disclosure is dependent on three factors: assumptions and beliefs, political and economic interests and type of emerging issue. A further examination of SID was undertaken by Dutton and Duncan (1987b) to understand how and why organisations respond differently to strategic issues. They suggest that by understanding the assessment process in SID and their interactions, one can predict the magnitude and type of change which an issue initiates. Thus, they draw links between interpretative activities, top level decision-makers and

organisational change. Further, they suggest differences in an organisation's belief structures and level of resources have a systematic influence on organisational adaption. These relationships in turn build the foundations for predicting why organisations respond differently to strategic issues. Dutton and Duncan suggest organisations with prolonged periods of performance success have a less radical response to a strategic issue than those which do not experience this success pattern. They give as an example the American automobile industry's failure to identify the need to develop small fuel-efficient cars in the late 1960s and 70s.

2.5.3 interpreting strategic issues

Past work has shown that how the top manager perceives a strategic issue affects the range of solutions considered in an organisation (Billings, Milburne, Schaalman, 1980) and influences the amount of resources committed to a particular project (Staw and Ross, 1978), and that CEOs primarily interpret strategic issues and act to coalign the strategy, structure and environment of the organisation to address these interpretations (Ritvo, Salipante, Notz, 1979). Dutton's (1988b) case study on the processing of crisis and non-crisis strategic issues found the more an issue is perceived to be a crisis, the greater the resources devoted to an issue and the greater the centralisation of authority by top level decision-makers in tasks related to the issue.

Using categorising theory as a framework, Dutton and Jackson (1987) suggest that labelling an issue as either a threat or an opportunity affects both subsequent information processing and the motivation of key decision-makers. This theorising is supported by Sallivan and Nonaka's (1988) findings about the information processing approaches of senior American and Japanese executives. Their findings suggest that the labelling of strategic issues as problems or opportunities, influences the approach to organisational information-processing instituted by senior executives. They also found that cultural values are a major influence on Japanese executives' tendency to

label issues as problems. For American executives the source of labels is less clear. Labelling may depend on where the issue information originated and how it was initially described.

Interest in issues is shown to decline with uncertainty and increase with perceived feasibility of resolution (Dutton and Webster, 1988). This finding is consistent with the view that decision-makers are opportunists, indicating theorists need to examine the context in which decision and coalition groups form.

All of these studies reveal how perceptions of strategic issues shape organisational action. Alternatively, organisational structures have been shown to shape perceptions of strategic issues. Dutton and Duncan (1987a) have proposed that the strategic planning process affects the sets of strategic issues that capture decision-makers' attention, and that the content and form of the strategic issue array, facilitates or constrains the political and informational dynamics taking place, during the initiation and implementation of strategic change.

The implications for research from these studies is that the complexity of the agenda-building process necessitates going beyond decision-making. That research must focus on the interaction of cognitions, structures and political activities within organisations. Further, that as these variables are dynamic and in constant interplay, the emphasis must be on the processes which create agenda-building.

2.5.4 strategic issue processing

Dutton (1988b) discusses SIP from four different perspectives based on her 1986 case study. These are: SIP as a performance programme, a control process, a channel for learning and an agenda-building process. The implications of these disparate perspectives are that it suggests outcomes are not the driving force behind action taking place in SIP. Instead, the SIP pattern was a product of a complex web of forces

occurring at different levels in the organisation. This underlines the importance of process as opposed to outcomes in SIP.

Dutton (1988a) attempted to capture the complexity of these processes around strategic issues, by formulating an agenda-building model based on the process whereby decision-makers allocate attention to strategic issues. It is the only comprehensive attempt of its kind in this area and therefore forms much of the basis for the subsequent discussion in this section. The model seeks to answer three related questions:

1. What makes different organisations attend to different strategic issues?
2. How in the same organisation do different issues command different amounts of attentional resources?
3. What are the implications of the above for managing organisational change?

In this model, the process of attention allocation to strategic issues is conceptualised as an agenda- building process. Agenda-building refers to the process through which strategic issues gain decision makers' attention and are legitimised in the organisation. Through a series of agenda-building episodes, a strategic agenda is built. A strategic agenda or issue portfolio refers to a set of strategic issues receiving collective attention. The evidence for allocation would include, naming of an issue, commitment of managerial time, collection of information about an issue and that individuals are able to converse about issues.

The agenda-building model draws on insights from theoretical treatments of attention allocation to issues from a diverse set of literatures. These tend not to treat the question of how issues first gain attention but assume rational criteria such as costs determine attention allocation. The agenda building view departs from these conceptions through the recognition that some issues are more socially acceptable than others, ie legitimacy forces constraint. It also highlights the interdependence

existing between attentional events related through cognitive and political links. This is expressed in the model by arguing that the inclusion of a strategic issue is affected by the set of issues already under consideration.

2.5.5 the agenda-building model

The model assumes all organisations attend to a limited issue set. The agenda is a structure which limits and orders the array of issues for top-level decision makers. The fundamental proposition of the agenda-building model is that an issue is placed on the strategic agenda when an individual is aware of an issue and interested. This involvement is indicated by the amount of personal resources they are willing to expend. Further, as top-level decision makers strive to maximise their legitimate power, it is the high-exposure interest consuming issues that have the greatest potential for demonstrating their abilities. Allocating attention to issues may be manifest as a formal committee, departmental agendas, or public statements about the issue etc.

The question is, what conditions increase or decrease the levels of issue interest and exposure? The model proposes that the organisational context influences agenda placement through its effect on the issue context. Thus any episode of agenda-building is an-issue-in-an-organisational event and any outcomes relate to forces operating at both the issue and organisational level.

The issue-specific context

The model implies that the probability that any particular issue will be placed on the strategic agenda depends on the conditions of three factors at any one point in time:

1. a strategic issue gains force (interest and exposure) through the combined effect of perceived attributes of an issue (issue salience) and
2. the political foundation of an issue (issue sponsorship), while

3. the size and variety of items already on the issue agenda (agenda structure), moderate whether or not these factors translate into awareness and interest in an issue. These three factors are considered to be interactive (Fig 2.1).

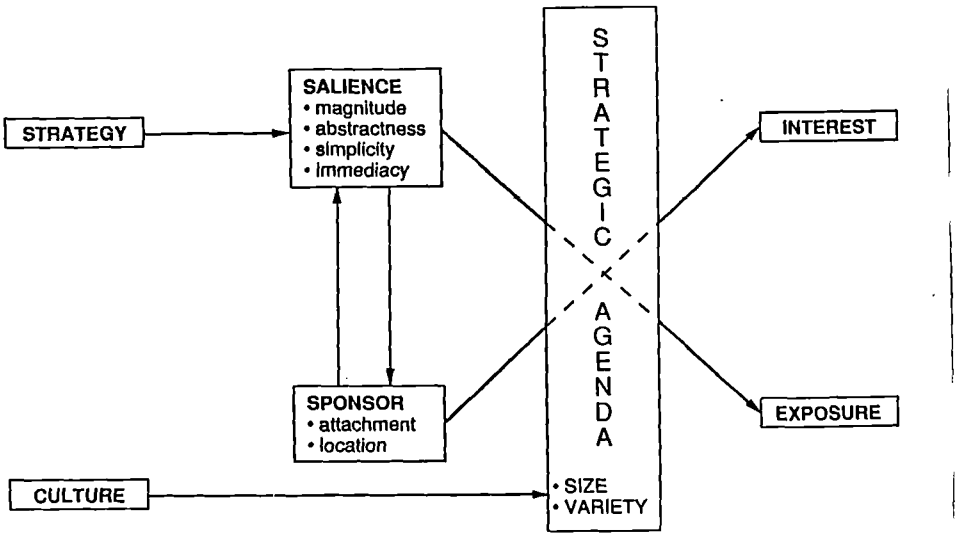


Fig 2.1 Dutton's (1988a) Model of Strategic Agenda Building

An issue's salience is related to a variety of issue characteristics. In this case, Dutton (1988a) has chosen magnitude, abstraction, simplicity and immediacy, which affect levels of exposure and interest. The perception of issue characteristics change as new information and new interests define an issue in a different light. This subjective nature contributes to the fluidity of the definition over time. Thus it is expected that the meaning and significance of issues will change over time as they become targets for debate, manipulation and politicisation.

Issue sponsors play a major role in building the organisation's agenda. Certain individuals become attached to strategic issues which helps to intensify interest or to gain issue exposure, translating their concern into action. A sponsor's efforts are more likely to be successful if they are strategically located and have personal credibility. Issue sponsorship and issue salience are likely to be closely related to one another. For instance, those issues which are strongly promoted are more likely to be viewed as higher in magnitude, abstractness, simplicity and immediacy. Further, an interactive

effect occurs, where the act of issue sponsorship is likely to alter a decision-maker's perception of an issue's characteristics. Thus, issue sponsorship and issue salience, jointly and interactively, determine the level of interest and exposure directed towards an issue. Both of these effects are dependent on the number and variety of issues currently receiving attention in the organisation, ie the agenda structure.

The entry of a new issue onto the strategic agenda is facilitated or constrained by the form or structure of an organisation's agenda at the time an issue is initiated. The probability of placement is related to the size and variety of issues. Any time a new issue reaches the agenda, it modifies the agenda structure operating during the next agenda-building episode.

The process of agenda building is dynamic over time, making each new episode contingent on the past. This means that by altering the agenda structure, an issue sponsor can play a major role in the allocation of attention by top decision-makers to future strategic issues. Also, the incorporation of a new issue cannot be understood apart from the array of concerns that the organisation has already faced. Dutton's hypotheses on the probability of agenda placement, focus on issue specific characteristics and events, allowing prediction of how in the same organisation, different strategic issues command differing amounts of attentional resources. To predict organisational differences in issue attention, one must consider the organisational context in which agenda building takes place.

The organisational context

This refers to the unique pattern of beliefs, values, resources and roles which influence agenda building through their impact on issue context. The effects of the organisational context are seen to be manifold and complex. Dutton illustrates her point with the two organisational characteristics of strategy and culture.

The organisation possesses a strategic frame (Huff, 1982) or strategic umbrella, by defining some issues as major, immediate and simple, while others are minor, long-term and complex. The organisation's strategy poses a strategic requirement (Hambrick. 1981), making some issues easier to concentrate on and others easier to ignore. Strategy exerts an influence on agenda placement through its effect on issue salience.

Organisational culture is defined as the set of shared beliefs and values of organisational members. Culture plays a role in determining the variety of issues included in the strategic agenda at any one point in time. Where culture is strong (high consensus). agenda structure is likely to be less varied. As a result, any new strategic issue gains rapid agenda status if consistent with the dominant concern of the organisational culture, but not so if it departs from the dominant shared view. Thus, organisational culture has influence through its role in determining high or low-variety agenda.

2.5.6 implications of the agenda-building model

The implications of an agenda-building view are both theoretical and practical. The strategic agenda-building (SAB) perspective implicitly assumes each new strategic issue is dependent, in part, upon the set of issues already under consideration. Thus researchers must understand the portfolio of issues already confronting decision-makers. The model explains a bias towards incremental change in organisations by uncovering the forces at work in problem setting. It implies the theoretical treatments of adaption and change must consider how organisational and environmental pressures translate into a particular issue context. In order to understand why organisations initiate unique responses to the `same' strategic issues, one must consider how the salience of an issue, issue sponsorship and agenda structure interact to enhance or diminish attention to this environmental event.

The components of the agenda-building model affect the political and cognitive forces at work in shaping the strategic process. In this way the model is consistent with attempts to wed these two forces to explain organisational change processes. It is proposed that members can implement change by managing agenda-building, either by increasing the probability of attention, or decreasing the probability of agenda inclusion. This can be done by modifying an issue's salience, modifying issue sponsorship or modifying the agenda structure. This is, however, a restricted account of agency, being limited to the issue context with very underdeveloped links into the organisational context. The model requires further development to include the personal and organisational resources of sponsors which grant them causal powers, and the alternative intersecting structures to which they may have access for resources to act. Finally, more research is required to elucidate what it is that sponsors do to modify salience, sponsorship or the agenda structure and whether there are similarities of process between them.

The SAB model is a useful basis for conducting research into strategy which is both contextualist and processual (Pettigrew, 1990a). It allows for what Pettigrew has described as vertical and horizontal levels of analysis. Thus, the model's explanation of phenomena at the vertical level derives from the interconnectedness of dimensions between the issue and organisational contexts. While the horizontal or temporal level is best illustrated by the influence of the past and present agenda structure. The model also goes some way to explaining the nature of causation about change, illustrated by the management of agenda-building by organisational members.

The model of SAB was however, limited to two contexts: the issue and organisational, whilst assuming their interdependence. This analytical separation is less useful for research seeking to understand the whole organisational context. Also, the focus on the issue context, as instrumental in predicting the amount of attentional resources given to a specific issue is unproven. This implies conducting research which

considers both contexts simultaneously. Further, the emphasis on prediction in the model means there is little attempt to describe the process of agenda-building.

Dutton's analysis of issue context is more developed than the organisational context which remains largely untheorised. The organisational context has the potential for a vast array of variables such as structure, resources and operations, in addition to those of strategy and culture proposed by Dutton. This enormous complexity, while no doubt representative of organisational life, presents an onerous task for the researcher. There is, therefore, a requirement for developing key links between the organisational and issue contexts based on empirical research and theorising. In this way, the researcher can hone in upon those organisational phenomenon which have the greatest potential to make a difference.

This has more recently been attempted by Dutton and Penner (1994), who see the interpretation of strategic issues being causally linked to the organisational context. They utilise the cognitive and political dimensions in the notion of organisational identity, described as: *...sets of attributes that individuals believe others share in distinguishing one work organisation as a social group from another* (p95). In this way organisational identity becomes part of the belief system around organisational culture. The limitations of this approach lie in its implications for agency. The motivation to act on an issue is assumed to be directly related to issue perceptions which are in turn influenced by organisational identity. A more direct link is also posited between organisational identity and agency in the meaning which organisations give to individuals as social beings. This places agency solely within the remit of a homogeneous organisational context. No account is given of a plurality of held beliefs within an organisation, nor of the social structures which give rise to them.

The SAB model's preoccupation with prescription does not account for the influence of major organisational change on the strategic agenda, nor distinguish between high and low level changes. By the same token, there is no distinction made between issues implicated in change and those on the periphery. For instance, might there not be a discernible pattern to issues in the long term? There is a need for accounts of the long term trajectory of strategic issues, and likewise, a need to describe some of the key processes of agenda-building in order to bring out the richness of organisational life. How, for instance, are strategic issues promoted and suppressed? From where do individuals draw their power to set an organisation's agenda?

By far the greatest failing of this kind of model-building is its fixed location of phenomena at the organisational level of analysis. Nowhere is there any attempt to propose wider external influences upon this model. Indeed, its positivist construction renders such notions as too complex to allow any predictive validity. In the context of this study a structurationist approach would take the useful conceptual contributions of this model: the political and cognitive dimensions, the agenda management process and the historical development of the agenda; and show how they might be grounded in a multi-contextual, processual framework. In the first place, the SAB process must be seen over time and in multiple contexts. This type of approach is particularly suited to idiographic studies (Tsoukas, 1989).

Secondly, the search for causation must be abandoned in favour of a Realist emphasis on the generative mechanisms and causal tendencies of social structures. Bhaskar's (1978) conception of action (section 2.1.2) implies research that is grounded in sociological, political, cognitive and organisational theories. This necessitates an interdisciplinary approach to understanding organisational behaviour. Also, an emphasis on a plurality of held beliefs by decision makers and, as a consequence, of issue interpretation, makes the necessity of exploring a diversity of social structural influences. In particular, the role of organisational culture and ideology in agenda

building would seek their social structural roots out in the industry and wider social environment.

Third, the organisational processes of SAB must be seen as having their own temporal dimension which may or may not align with those of the external environment giving rise to strategic issues. These multiple temporal modes must be accounted for alongside the rise and fall of strategic issues on and off the organisational agenda. For instance, the failure of some companies might be explained in the mis-match between environmental signals and the dominant agenda issues. The content of strategic issues must also be seen in a wider context, not only of the current agenda, but the related issues of the day. For instance, to use a previous example, the requirement of public sector organisations to provide `value for money' has to be seen in the context of the New Right ideology of the Thatcher government. In view of the above, a research strategy might be to either explore one strategic issue over time, or a cluster of related issues. A more adventurous study could examine the whole of the strategic issue array over the long term.

2.6 Conclusions

In this review a theoretical approach to the study of organisations, derived from Giddens' concept of structuration and Bhaskar's Realist paradigm has been posited. This approach takes as its premise a view of organisations as historical, social, evolving and intentional. A research outcome is suggested which is concerned with documenting and providing explanatory force for patterns within and between organisational, contextual and temporal processes.

The role of organisations in society is conditioned by a plurality of social structures which lend them their purpose in the intersection of the rules and resources they provide. It is this configuration of structural properties which grant organisational members agency, alongside the rules and resources which they themselves bring to the organisational context. At both collective and individual levels, then, organisational members have a plurality of structures from which to make choices about action. That there is a tendency for actions to become routinised is seen as one manifestation of the dynamics of action in organisational life. Here rule enactment serves to perpetuate those rules by granting them legitimacy. Further, the effects of rule enactments may embody reinforcing resources which accumulate over time to support and shape the organisational context. That routines are broken, often by outsiders, gives credence to the existence of alternative social structural sources of choice and to the tenacity of established ideas in an institutional context.

The importance of studying organisational histories has been highlighted, in particular, in conceptualising temporal patterns in ways amenable to the conduct of research. A processual approach is alert to the cumulative nature of history, that is, to the way in which unfolding events accumulate, add significance and transform phenomena (structures and agents) thereby changing the nature of agency and hence praxis (events). Social research must document the dynamic nature of history and be mindful of the ongoing process of change in the temporal dimension. Organisations have their own internal dynamics and exhibit varying patterns of continuity and change. The documentation of these developmental patterns is seen to be facilitated

by the use of a punctuated equilibrium theory of change. Here, one might distinguish between degrees of change and periods of relative continuity.

Organisational culture stands out in the decision making and change literature as crucial to organisational development: most notably that subset of culture known as ideology, or the organisational belief system, which so underpins action. Organisational ideology is seen to have its aetiology in multiple contexts, both external and internal to the firm. In particular, the importance of the sector context in ideological expression deserves examination. In this way ideology is a force for cohesion and rule interpretation within organisations, arising out of a synthesis and expression of beliefs which draw their inspiration from diverse social structural rules and resources. It is the very changing nature of social structures and individuals within organisations which make possible a plurality of ideological expressions as well as the wholesale transformation of organisations.

An organisational activity at the heart of decision making and change is strategic agenda building. The process whereby organisations decide, debate and actively pursue their destinies. A research design was suggested which traced the trajectory of one or more strategic issues over time, where the emphasis was not on prediction but of explanation, less on model-building than on patterned dynamics. The aim is to locate the agenda-building process in modalities of structuration.

In the search for an understanding of organisational phenomena, it matters little where one starts: be it organisations interacting with their environment, organisational

change, or the interpretation of strategic issues. A structurationist perspective within a Realist paradigm that is faithful to context and process will provide explanations pertinent to all areas of enquiry. The present research draws on these theoretical insights to propose a study of organisational phenomena which is historically, processually and contextually connected. The aim is to document patterns within multiple contexts, between contexts and over time, and to provide explanations which ground phenomena in the generative mechanisms of their production.

3. METHOD

3.1 Introduction

This research has been conducted under the broad banner of the qualitative tradition within the social sciences. A tradition which has gained increasing support in recent years as a counter to the disquiet felt with the positivist scientific tradition (Mintzberg, 1979; Tsoukas, 1989; Silverman, 1994). The assumption that the logic of hypothesis-testing is the primary basis of scientific enquiry (Glaser and Strauss, 1967) does not travel easily to the social sciences where social scientists: *...have to bear in mind that social variables are intrinsically more difficult to isolate and test* (Silverman, 1985). This is not to say that positivist methods have no role to play in data gathering and analysis, just that their appropriateness is circumscribed by the phenomena under study and levels of analysis. This last reveals the author's epistemological bias, in which structures of the social world exist independently of our knowledge of them. This realist perspective (Bhaskar, 1978) has also been strongly influenced by interactionist approaches in the tradition of Weber (1947) and Mead (1928) with their concern for the interpretation of meaning and ethnomethodology's (Garfinkel, 1967) interest in everyday practices which order social relations.

Specifically, the method adopted here derives from the more recent tradition of process research in strategy (Chakravarthy and Doz, 1992; Pettigrew, 1992). Here is included the longitudinal field research on organisational change, with its contextualist theory of method, advocated by Pettigrew (1990a) at Warwick and the innovation studies of Van de Ven et al (1989) at Minnesota. In the best tradition of qualitative research the strategy employed has been both iterative and developmental. Rather than imposing a theoretical framework from the start, being open to what the site had to say was deemed as most important (Glaser and Strauss, 1967). This did not mean operating in a vacuum, rather, a tentative framework was

created with propositions, which informed the initial research strategy. Being open to what the data had to say also meant being flexible (Silverman, 1985) and therefore prepared to change direction as the emerging data dictated. The respecification of the research problem meant that the programme was not a linear progression from fact-finding to analysis. A forwards and backwards motion from data to analysis, and back to the data again, more adequately describes the process.

In setting out this chapter I first discuss the epistemological underpinnings which have informed my approach. I then go on to review the key issues of contextualism. There follows the propositions and an account of the research strategy. The rest of the chapter is then devoted to an in-depth discussion of the steps taken, their timing and sequence.

3.2 Epistemological Underpinnings

The approach taken here to understanding knowledge derives from the philosophy of phenomenology (Husserl, 1973) and expressed as a sociology of knowledge (Berger and Luckmann, 1965). Here society is conceived of as an ongoing dialectical process involving three moments of externalisation, objectivation and internalisation. In this way, individuals create and are in turn created by society in an eternal dialectic. The dissemination and acquisition of knowledge is social and determined by history, via objectification in a dialectical process. This epistemology has important implications for the conduct of research: not least that such a view makes reality something constructed by particular societies and offers no basis on which it can itself be validated (Trigg, 1991). If we are not to collapse into subjectivism and ultimately solipsism, a realist conception of the world is necessary. Thus a multiparadigm perspective is adopted (Burrell & Morgan, 1979; Gioia and Pitre, 1990), whereby an analysis of human consciousness with the assumption of dialectical processes of socialisation (Interpretivist) is coupled with a functionalist

paradigm. If one concedes that the boundaries between paradigms are blurred then their conception as transition zones (Gioia and Pitre, 1990) to be bridged is facilitated by the use of second-order concepts (Van Maanen, 1979a). The most useful bridge between the interpretive and functionalist paradigms falls under the rubric of structurationism (Giddens,1979) or Realism, which elsewhere is denoted as a paradigm in itself (Bhaskar, 1978; Tsoukas, 1989).

In brief, structuration theorists focus on connections between human action (in the form of structuring activities) and established organisational structures. Proponents of this theory do not treat structuring as separate from structures; they consider social construction processes together with the objective characteristics of the social world. Simultaneously they recognise that although organisation members use generative rules to produce organisational structures, such structures serve to influence and constrain the structuring activities themselves (cf. Tsoukas, 1989 for an example). Structuring and structures are thus placed on equal footing by showing how social structures emerge from structuring activities and become external and influential on subsequent structuring processes. Structure is therefore conceived simultaneously as: *...a flow of ongoing action and as a set of institutionalised traditions or forms that reflect and constrain that action* (Barley, 1986). Hence structure is both the medium and the outcome of interactions (Giddens, 1979).

Structurationism serves as a means of bridging a gap between subjectivist and objectivist views of related notions. It does this specifically via the notion of modalities of structuration. A modality represents the individuals appropriation of structure for use in a particular action context. The very appropriation of the structure acting to reproduce itself. Structuration thus occupies an intermediary position on the subjective-objective continuum and spans the interpretivist-functionalist transition zone. Thus structuration resolves an apparent paradox between action and structure (Poole and Van de Ven, 1989). However, it may also

introduce other problems, such as the unclear conceptual status of modalities of structuration (Poole, 1985). Archer (1982) has critiqued structuration on precisely these grounds, arguing that modalities are complex constructions with obscure empirical references. Giddens' (1979) own recommendations were few, beyond an artificial separation of analysis of strategic action from the analysis of social structure.

As Van de Ven and Poole (1989:575) argue: *...the complexity of organisations guarantees that theories cannot give a complete representation.* However, there is great potential to enliven current theory and to develop new insights if theorists search for and work with inconsistencies, contradictions, and tensions in their theories, and in the relationships between them. The difficulty of empirical verification of modalities of structuration calls for a methodology which accepts complexity, the partiality of truth and reflexivity. This implies a holistic and multifaceted approach to organisational phenomena. Poole and Van de Ven (1989) suggest clarifying levels of analysis as one of four different modes of working with paradox in theory. Whittington (1992) has suggested adopting the institutionalist's perspective of concern with the wider social influences on the firm, alongside the structurationist's concern for individual agency. This combination of acceptance of structural conflict and tension with the stress on structural diversity stored as memory traces, avoids the conflation of action and structure by: *...considering not only structural properties actually mobilised, but also those left dormant* (Whittington, 1992:704). In separating the enacted system from the structural potential one glimpses agency by insight into what might have been.

The theory of method implied by these epistemological assumptions is that of contextualism derived from the work of Pettigrew (1985b). Broadly, this approach falls under the rubric of qualitative research. Although the term qualitative has been seen as a type of evidence rather than as a research design (Yin, 1984), much has

been written under the term which encompasses all facets of methodology (Mintzberg, 1979; Jick, 1979; Van Maanen, 1979b; Miles, 1979; Piore, 1979; Manning, 1979; Silverman, 1985, 1994). What distinguishes these writings from contextualism is a lack of emphasis on time and dynamics (Pettigrew, 1992) in organisations. More recently (Pettigrew, 1992), this interest in dynamics and time in the strategy field has focused on process research. The underlying assumptions of this approach are of strategy as process rather than a state, with the emphasis on renewal and growth. All suggest a concern for action and movement in the analysis of the firm. The contextualist method which is the analytical foundations of this study's approach will be discussed, followed by an account of this processual research.

3.3 Contextualism

This theory of method conceives of the understanding of phenomena as holistic in nature. More specifically, phenomena are analysed on multiple levels, or vertically (processually), and horizontally. The vertical level of analysis is concerned with the embeddedness of phenomena within macro and micro societal levels. Thus organisational analysis would be concerned with at least three levels: the wider social context, the industry level and internal organisational structures. The horizontal level is concerned with both content and action. Thus organisational analysis is concerned with both the content of strategic plans and how these are formulated. Holism is achieved with the overlay of the horizontal upon vertical levels of analysis, the two being interconnected through time. It is the temporal dimension which gives the research its truly three dimensional character. In this way one is approximating as closely as possible the capturing of Realism in social phenomena.

Pettigrew (1985a) outlines five prerequisites for contextualist analysis with key assumptions derived from the conception of holism. Firstly, because phenomena are studied in the context of interconnected levels of analysis, the researcher must clearly delineate these levels. Secondly, the importance placed on temporal interconnectedness requires a clear description of the processes, both historically and in the future. This involves the use of language appropriate for the description of dynamic systems as well as capturing change and action in relief, against the ground of structure and constancy. Third, processual analysis requires a theory or theories to account for the process, part of which requires the specification of the model of persons and society underlying research. Fourth, the role of context and action as conceived within a structurationist framework require the explicit linking of structure and process. Thus the researcher must move from unidimensional to multidimensional theorising about ongoing dialectical processes of structure and context and the roles of individuals within this multifaceted reality. Fifth, causation being neither linear nor singular but multiple and interconnected, explanations for phenomena are sought at the level of convergent interactions and interconnected loops. Thus causal reality is explained via an appeal to higher order or system level concepts.

The practical achievement of these ends for the researcher is not easy and has crucial implications for procedure, data collection and analysis. Before embarking upon an in-depth discussion of these matters, the next section outlines the propositions for this research as they have arisen out of an analysis of the literature (chapter 2). The remainder of the chapter will discuss the key steps taken to employ the contextual method in action.

3.4 Propositions

A set of generic propositions and questions were derived from the literature concerning the two principle topics of investigation: strategic agenda building and

organisational continuity and change. These are listed along with relevant sets of questions:

3.4.1 strategic agenda building

1. SAB is a dynamic organisational process and must be understood within a diverse multi-level context.

1.1 Therefore the issue context is interdependent with the organisational context.

What are the key links between the organisational and issue contexts?

What features of intra organisational context would one have to change in order to increase or decrease the degree of issue receptivity in a particular setting?

1.2 A key intra organisational contextual feature must be the relationship between issue sponsor and the organisation.

What are the important inherent features and actions by an issue sponsor in increasing or decreasing the degree of issue receptivity in a particular setting?

2. The temporal dimension of the agenda structure must be an important influence.

What has been the size of the formal strategic agenda and the variety of issues occupying it over time?

How has this process of agenda shaping developed over time?

2.1 Individual strategic issues will exhibit a career or trajectory over time.

How can one account for the particular trajectory of any one strategic issue?

3. The outer context will be an important influence as it links to the organisational context.

What are the links between the outer context and the organisational context?

What features of the outer context are responsible for increases or decreases in the degree of issue receptivity over time?

4. The differences in the career and trajectory of issues between firms are likely to be explained in terms of the above propositions.

3.4.2 organisational change

1. Organisations exhibit patterns of continuity punctuated by change events in an ongoing process of evolution.

How can one account for particular patterns of development between organisations?

What was the rate and pace of change?

What were the important intra organisational and outer contextual influences over time?

2. Processes of strategic agenda building are implicated in and affected by periods of organisational change and continuity.

3.5 Research Strategy

The methodological approach adopted here meant that the research strategy did not follow a logical sequence from research question, data collection, analysis and output, characterised by positive methods. A much more iterative, reflexive series of activities occurred as the researcher adopted an open stance to the data and was attuned to the possibility of revision in the work. For clarity of reading, the research process has been divided into discrete sections. It must be stressed that each activity was dependent upon and infringed upon the other, so that, for instance, the selection of a site involved data collection and written outputs aided analysis as well as suggesting other data. The research strategy is described in the following sequence:

3.6 Research method

3.7 Research parameters

3.8 Data collection

3.9 Analysis

3.6 Research Method

3.6.1 strategy process research: comparative case study method

The contextualist theory of method has been employed by means of the comparative case study method (Pettigrew, 1990a). Many of the criticisms of the case study method have been based upon positivist assumptions of validity, reliability and replicability as being problematic in this form of research design. The methodological role of the case study has been as a precursor to further quantitative data collection and analysis. Thus, the case study is most usefully depicted as a means to suggest hypotheses, interpretations and empirical uniformities (Platt, 1988). The case study under these premises is relegated to the pilot study, trial or demonstration project, prior to the main study taking place (Platt, 1988). As Tsoukas (1989) makes clear, for realists, the above views of the role of case studies in social empirical research are limited because they are based on the assumptions that (a) the ultimate objects of knowledge are atomistic events, which constitute facts apprehended by sense-experience, and (b) event conjunctions are the raw materials for theory building. Consequently, any empirical regularities are fused with the causal laws underlying them. Therefore, it is naturally concluded, that since case studies by their very nature cannot point at any extensive regularities, they are, as far as explanatory knowledge is concerned, epistemologically inferior. By contrast, within the realist paradigm, explanatory idiographic studies are epistemologically valid because they are concerned with the clarification of structures and their associated generative mechanisms, which have been contingently capable of producing the observed phenomena.

The comparative case study method was also chosen as it ideally suited the topics under investigation. The understanding of micro organisational processes of strategic agenda building and change required a method which captured the rich

detail of organisational life within a multi faceted context. Comparative case study analysis allows for intensive investigation of organisational phenomena, by providing the opportunity to examine continuous processes in context and to draw in the significance of various interconnected levels of analysis. Thus there is scope to reveal the multiple sources and loops of causation and connectivity so crucial in identifying and explaining patterns in the process of change and transformation.

This support of idiographic organisational studies goes beyond purely qualitative descriptions and pattern seeking in data. Instead a realist approach is concerned with what has produced the phenomena under study, what are the structures, the generative mechanisms and the contingent factors responsible for the observed patterns. This is similar to Pettigrew's (1990a) enjoinder to be mindful of the "what", the "how" and the "why" of phenomena. Within a contextualist framework, the realist paradigm is enhanced by the specification of levels of analysis within which generative mechanisms may reside. In this way the researcher seeks to postulate tendencies, rather than ironclad laws, which may or may not manifest themselves in the empirical domain. From a contextualist perspective tendencies may be seen to reside in the vertical levels of analysis. The overlay of the horizontal level gives these tendencies their dynamism and indicate where indeterminate outcomes are the product of a contingent link of a set of causal powers.

3.6.2 historiography

The contextualist method dovetails neatly with historical perspective (Lawrence, 1984) and historiography in its emphasis on the temporal dimension in multiple contexts. In beginning with general questions rather than a theory, this method borrows from historiography (Goodman and Kruger, 1988). The process of historical research according to these authors involves four steps:

1) Evidence from both primary and secondary sources is examined and authenticated.

2) Its informational content is analysed.

3) Its suitability as evidence supporting or refuting an interpretation is evaluated.

4) The researcher then determines if these sources can be woven into an argument answering the question at hand.

Historiography therefore includes the body of techniques, theories, and principles associated with historical research, but as with historical perspective (Lawrence, 1984) need not be restricted to producing `history' rather it informs the present. In expanding research horizons the temporal dimension can provide alternative explanations of phenomena. Lawrence (1984) argues that historical perspective allows researchers to sharpen their view of the present as opposed to history which concentrates on understanding the past. It does this in two ways: by elucidating those elements in the findings or theory which are transhistorical and the time period over which findings and theory may be generalisable. Thus historical perspective becomes a way of distinguishing between "grand" and "mid-range" theories. It is this perspective which is crucial to the method used.

Pettigrew (1990a) makes the important distinction between time as chronology and time as social construction. This creates a certain tension between the historical chronicalling of facts and understanding institutional time cycles. Thus the researcher has to be attuned to the underlying logics which give events meaning and significance as well as the events themselves. For instance, in this research, data on key organisational events were linked to the cycles of national government. In this way, organisational decisions such as capital expenditure could be linked to the public expenditure policies of the particular political party in office. Similarly, the researcher had also to be aware of differing temporal patterns in processes occurring at different levels of analysis. So, for instance, one became aware that commercial changes within the case study firms were occurring at a faster rate than the industry sector as a whole.

Time also provides a perspective by setting a frame of reference for what processes are seen and how these are explained. A focus on current events highlights change while a historical view highlights continuity. Empirically and theoretically change and continuity are a matter of time. Any adequate empirical enquiry into change has to be capable of revealing the temporal patterns, causes, and movements from continuity to change and vice versa. In this study historical and real time data has been collected which allows the present to be explored in relation to the past and the emerging future.

3.7 Research Parameters

The research parameters are influenced by the nature of the theory of method adopted. The contextual method examines the reciprocal relations between process and contexts at different levels of analysis. While the realist perspective specifies the nature of the causal reality by reference to generative mechanisms and the contingent factors which link them. Processual analysis calls for an emphasis on action as well as structure over time. Comparative and idiographic suggests more than one intensive study within a sector. These studies are aiming for pluralist accounts which calls for description and analysis of competing versions of reality. Finally, a historical approach takes into account the historical evolution of ideas and actions for change as well as the constraints within which decision makers operate. The comparative method of research informed the starting point for the investigation leading to a consideration of research sites and the unit of analysis.

3.7.1 choice of research sites

Pettigrew (1990a) lists four key issues for consideration when choosing research sites. The first, to go for extreme situations, involved preliminary research and also served to define the unit of analysis. The second and third issues, to go for polar types and high experience levels, also involved the researcher in preliminary data

collection and analysis. The fourth, that of gaining access, required both political skills and social sensitivity.

3.7.2 sector choice

(1) Extreme Situations

When this study was initially conceived, the phenomena under study was strategic agenda building and organisational change. The researcher's interest in environmental issues suggested a choice of industry where such issues were strategic and historical. It was felt that any element of real time research would be small, as the research was not requested or funded by a sponsoring organisation. Therefore an historical association with the issue was important in order to trace developments over time: *The point of studying a sequence of social dramas longitudinally is that they provide a transparent look at the growth, evolution, transformation, and conceivably decay of an organisation over time* (Pettigrew, 1990a: 275).

Additionally, one was searching for an industry or company where significant organisational change had taken place in connection with the issue: in other words, that some change had occurred which made a measurable difference to issue salience. The oil and chemical industries were rejected as possibly too sensitive a topic to allow access. The water industry was considered an interesting case because it had been privatised in 1989 which provided an obvious transition point for processual change. This transition had been highly publicised and so was an example of a "highly visible case". Also, theoretical propositions about the political nature of strategic agenda building suggested that the water industry would be rich in such data. Therefore, it was decided to conduct research into the water services companies who were responsible for water and sewage. This eliminated that part of the industry made up of water only companies. The choice confronting the

researcher now concentrated on the 10 water companies of England and Wales and a general review of the history and development of that sector was conducted.

3.7.3 unit of analysis

Since the early 1970s the water industry has been faced with concerns over water quality and waste. This relates to both river and drinking water, and of itself throws up a number of strategic concerns: costs, definition of standards, investment, regulation etc. The quality issue was at the heart of the arguments for privatisation, with the government emphasising the separation of the provider from the regulator. This issue also underlies the massive capital investment requirements over the remainder of the next decade to bring the water industry in line with EC standards.

After a discussion with the Drinking Water Inspectorate (DWI), it was decided not to choose drinking water quality as the strategic issue. This was for three reasons: firstly, no statistics on drinking water were kept prior to 1989. Secondly, the measures of water quality now are completely different from pre 1989. Third, compliance is now very high and the differences between companies are imperceptible. There were, however, ample data on sewage quality which continued to be an issue of considerable concern for the industry, but not in a form conducive to comparative analysis. One would have to conduct an internal investigation into the archives of all 10 companies to establish patterns in performance over the last 20 years. However, contingent upon sewage quality was the quality of rivers around whose basins the water companies had initially been established as public sector authorities in 1973. As guardians of the rivers the authorities had been self regulating for 16 years. The performance of all the companies had been measured since 1975 by the DoE. This authority had changed with privatisation into the hands of the NRA, who now collected statistics. Therefore, data were available pre and post privatisation with the added feature of the industry's different relationship with the issue of river water quality.

It was therefore decided to choose river water quality (RWQ) as the unit of analysis in the research design. The focus for the research would be the trajectory of the river water quality issue. At the micro level, river water quality meets many of the criteria for issue salience as identified in the literature on strategic issues. It exhibits high magnitude, has relevance to the core organisations, has internality and controllability, and is related to other issues of concern to the water industry. At the macro level, river water quality has had a long time horizon as a concern with the water industry. It is connected with the social and political concerns of the day. It is intimately bound up with issues of regulation which has been an ongoing theme for the industry both prior to and since privatisation. It was concluded on all these points that RWQ is a relevant topic for analysing the differences in organisational responses to strategic issues. It was proposed therefore to make a comparative study of two water service companies' response to river water quality.

The internal context of the study necessitates operationalising the agenda and how issues come on to the agenda. It is recognised that at any one time there will be a formal and informal agenda, or portfolio of concerns within the organisation. For pragmatic reasons, this study will be chiefly concerned with the formal policy committee agenda of the water companies and where possible, the informal agenda held by members of the top management team. The first will be accessible by policy documents and interviews. The second will require in-depth interviews of individual members of the top management team. This should reveal each individual's own agenda and perceptions of RWQ and related issues.

Issue placement on the strategic agenda will refer to the point at which water quality issues are formally recognised in policy documents. The resulting policy decisions representing the organisation's formal response to the quality issue. The outputs of the organisational response would be determined by the measurable achievement of

river water quality objectives. The research will document and analyse each instance of the formal appearance of the river water quality issue and follow its path from decision making to implementation.

In order to understand how water quality has been perceived and responded to over time by water companies, it is necessary to conceptualise its trajectory. This can be understood in terms of the internal responses of water companies, exhibited by internal discussion, agenda placement, strategic planning, policy decisions, resource allocation and measurable outputs over time.

The other key concept of this research is that of change and transformation. In this study the concept of change is derived from the works of Pettigrew (1985a) and Tushman and Romanelli (1985). Close readings of the literature by this group of authors shows a strong similarity between Pettigrew's revolutionary and evolutionary eras and Tushman and Romanelli's periods of convergence and reorientation. For a fuller account of definitions of change and continuity adopted here the reader is referred to the literature review. This research is therefore concerned to document periods of convergence and change, their timing, sequence and contextual influences.

3.7.4 choice of organisation

(2) Polar Types

Any research with an interest in outcome measures is advised to select sites which are examples of polar types. Water companies' performance in terms of river water quality have been measured by the DoE in 1975, the NWC in 1980, the DoE in 1985, and by the NRA in 1990, the figures being most comparable since 1980 (see 10.2.1). From these statistics one could infer a clear distinction in terms of achievement between the companies. It was also decided to include contextual decisions in the selection process. Bearing in mind that any strategic issue was

assumed to be a multi-level dynamic phenomenon, it was important to consider wider contextual features which might have an impact upon the performance outcome. In the first instance, water companies with vastly different geographical and topological regions could not be compared. This was because causes of pollution were vastly different (farming vs industry) and had different expenditure implications. Likewise the proximity to a coastline and the density of urban conurbations had different implications for sewage disposal. In the first instance, it was decided to select two companies within similar geographical regions having a commonality of pollution factors to deal with. Secondly, those companies with the clearest difference in performance would be compared.

Taking topographical and urban/industrial vs agricultural pollution into account one arrived at several possible clusters of water companies, divided into coastal and inland companies (Fig 3.1). Within each group it was possible to measure either positive or negative broad trends, indicating the percentages of river length changing class from 1980-1990 (NRA, 1991a).

Coastal
Largely agricultural with small urban conurbations
South West +19
Wessex -16
Welsh +1
Anglia -10
Agricultural with large industry and urban conurbations
North West +4
Yorkshire -7
Northumbria -6
Mixed agricultural and dense urban areas
Southern+8
Inland
Agricultural with large industry and urban conurbations
Severn Trent -2
Thames -11

Table 3.1 Typology of Water Companies

This grouping served in the first instance to eliminate Southern as having idiosyncratic contextual features. When one took into consideration the NRA (1991a) performance figures for 1980 to 1990, a figure could be arrived at for each

company showing the net gains or losses achieved from one five year period (1980-85) to the next (1985-90). This indicated the most likely polar types for comparison: South West and Wessex, North West and Yorkshire and Severn Trent and Thames.

The researcher took full note of the advice that the practicalities of site choice is best described as planned opportunism (Pettigrew, 1990a). The two inland companies were chosen for reasons of time and cost limitations. Equally, for the same reasons, the researcher was not at liberty to select additional pairs. The choice of water companies was also helped by the presence of the chief executive of Severn Trent on the Board of the Warwick Business School. The second choice was facilitated by contacts within the Business School.

Both Severn Trent and Thames were amongst the largest in the industry. They had adjoining boundaries which meant that they were not dissimilar in climate or terrain. Both had large urban populations to service and faced similar technological requirements to do so. But Thames showed a distinct deterioration from the mid 1980s in river water quality performance, compared to Severn Trent. As the study progressed further polarities were discovered. For instance, historically the Thames being a source of drinking water meant that it had received more stringent monitoring (in the 1950s and 60s) than either the Severn or the Trent prior to 1974, which had both acquired reputations as being badly polluted. (for a fuller account see chapter 4). Thus one could ask questions about why Severn Trent had performed comparatively better by the mid 1980s and why Thames had such a dramatic decline from 1985 to 1990. Added to this it was discovered that Severn Trent had kept a full account of their performance and produced a separate quality report annually (the only company to do so in the industry), while Thames produced data only within company reports. This in itself was considered to be an interesting difference. Why was it that one company produced such extensive information for the public domain while the other produced only what was minimally required?

(3) High Experience Levels

The selection of the two cases also conformed to Pettigrew's suggestion to go for high experience levels of the phenomena under study. Both Severn Trent and Thames had different historical experiences of river pollution and both had chosen to tackle the issue differently after 1974. Equally important was the role played by the two companies in the privatisation process. Both were close to the centre of political activity surrounding the last major transformation of the industry and could provide unique insights into key developments.

3.7.5 access

As stated previously, access was obtained in Severn Trent because of their connection with Warwick Business School. An interview was held with the MD who granted access and provided a list of appropriate respondents. Gaining access to Thames was less of an initial certainty and relied on a WBS contact with the deputy Chairman. Initial contact was made by telephone and followed up with an interview. Having already researched into the industry and conducted interviews within Severn Trent, the cold call approach could be smoothed by demonstrating a familiarity with sector issues and experiences (Pettigrew, 1990a). The deputy Chairman then made available the names of persons he thought suitable for interview. In both organisations further contacts were obtained from suggestions made by the initial interviewees and the researcher's own investigations (see 3.8.4.1).

Negotiating library access was also an important part of the initial research process. In Severn Trent, although granted at the outset, times had still to be negotiated with the library staff and one relied on their goodwill to find a table and chair where space was at a premium. Given the volume of archival material to be studied, (known and possible) the researcher needed to spend whole days at a time in the

library, thereby making heavy demands upon an overcrowded and busy library. Similarly at Thames, access was negotiated with library staff separate from, although with the full knowledge of, the deputy Chairman. Here again, one had to be sensitive to the restrictions on space and respect the confidential tag on many current documents. In both cases staff proved to be most accommodating. They even allowed books and documents to be borrowed as well as providing photocopying facilities.

3.8 Data Collection

A comparative processual study, aiming for pluralist accounts of historical and contextual organisational reality, means producing case studies and not just case histories (Pettigrew, 1990a). This involves going beyond chronology to develop analytic themes. It also means collecting data at different levels of analysis and demonstrating how actors mobilise features of economic and sectoral contexts to legitimise or delegitimise ideas for change and continuity at organisational levels.This implies a triangulated methodology (Denzin, 1978; Jick, 1979), used to gather different types of data which can be used as cross checking for reliability. The aim is to draw on particular and different strengths of various data collection methods. Crucially data collection is concerned with observation and verification, and in comparative process research these are iterative processes. One observes, follows themes and trails, identifies patterns, has those patterns disconfirmed or verified by further data, and the process moves on.

3.8.1 timing

The difficulty of isolating the beginning and end of a continuous process is highlighted by Pettigrew (1990a). Given that there are no absolute answers the researcher must be guided by pragmatic considerations. In the present study the theoretical framework, themes and research questions influenced when to start and

stop collecting data. The framework focused on major social dramas or breakpoints (Pettigrew, 1985a, Tushman and Romanelli, 1985). This suggested initially that one began at the formation of the case study organisations in 1974. As the investigation into river water quality proceeded it was revealed that the issue had a history prior to the formation of regional water authorities. Indeed, as a social issue this stretched back to the mid 19th century. In order to take an organisationally relevant view, it was decided to look for antecedent influences on the character of the issue, which informed organisational action from 1974 to 1994. This broadly meant collecting data from 1948 with the formation of the first River Boards in the UK. This time scale also coincided with the earliest organisational memories of the oldest respondents in the sample. The stopping point for data collection was a subjective decision on the part of the researcher that enough interview data had been generated to reveal similarity of thematic content.

3.8.2 data types

This research involved three main types of data, in-depth interviews, documentary and archive data and, to a lesser extent, observational material. These will be discussed in roughly the sequence they were first employed, so that first a chronology needed to be established from archival data, in order to construct the first pro-forma, which then had to be tested in interviews. Meanwhile, observational material was sporadic and ongoing. It is to be stressed that data collection was an iterative process and two or more types of data were at times collected together.

3.8.3 documentary and archive data

As Glueck and Willis (1979) rightly point out, historians provide the best training and justification for use of documentary evidence in research. Strategic management analysts show less enthusiasm for these forms of data, perhaps because of the possible biases. Firstly, the use of documentary evidence does not guarantee objectivity, consistency, or even accuracy. The researcher needs to learn something

about the preparation of the document which they intend to use as a source of information. The selection process which precedes any summarisation of information may be influenced by the interests of those who select what to include and what to omit.

Secondly, bias may reside in the design of the information system which generated the data. For instance, accounting systems differ from firm to firm and published data which appears comparable may not be so at all. Public ownership makes company reports from 1974 to 1989 very comparable, as all conformed to specific sets of information and presentation designed for public consumption. There were clear differences in reporting after privatisation which are dealt with below.

The possibilities of error are also present, including typographical and clerical. A second source of error is deliberate distortion, either by a member of the organisation to further personal ends, or the organisation to promote a particular interpretation of the information. It may be impossible for the researcher to be absolutely sure such distortion has not taken place, but they should always be aware of how others will use the documents chosen and what effects these uses might have had on the way the information was prepared and presented (Glueck and Willis, 1979). For example, it was clear that the presentation and information content of company reports was very different after privatisation. There was a far more superficial treatment of internal events, a marketing led approach designed to appeal to shareholders, which meant there was a focus on achievements with failures given cursory mention. The approach taken here is not to assume that these are biases to the integrity of the data but to represent in a powerful way differences brought about by privatisation. These differences could then be exploited by the researcher to demonstrate the culture change brought about by this transformational episode. The changes in company report style were interpreted as the external symbolisations of deeper internal changes.

Glueck and Willis (1979) recommend awareness as the best safeguard against bias, inaccuracy and distortion. This study takes as its premise that such "problems" with data are in themselves interesting organisational phenomena and can contribute to the overall research by posing questions as to why they have occurred: for instance, the previously mentioned fact that Severn Trent were the only water authority to produce water quality reports.

3.8.3.1 preparation phase

The aim of the preparation phase was to become acquainted with the history of the industry and the organisations themselves, prior to site selection. All the water companies were contacted for their company reports over the previous 2-4 years. All companies sent at least one report and a general feel could be gained of the different companies. A visit was made to the Water Services Association and materials on privatisation and industry journal articles were acquired. Ancillary organisations were also contacted such as the Association for Municipal Engineers, who were able to provide a list of all their current articles. Technical information on pollution was acquired from the British Reference Library. The NRA and Drinking Water Inspectorate were contacted for information to decide the unit of analysis (see 3.6.2).

It was decided to do historical research in both companies before any interviewing took place to get a feel for historical events and pro-forma development. This involved an intense period of one day company library visits. During this time all company reports (1973-94) were read, initially, in order to get a feel for their lay-out and the relevant parts photocopied. At Severn Trent all the Water Quality reports from the period 1973-1989 were also read and photocopied. In addition a library search was undertaken by the librarian for key documents on river water quality. All the shelves of the library were scanned for other historical material of

relevance. This material varied from the highly technical (scientific articles on sewage and water pollution); to organisational and political (report on the MMC enquiry); and historical texts on water and rivers in the UK. At Thames the procedure was the same with a thorough search of company records prior to interviewing.

A detailed chronology of industry and organisational events was drawn up to guide thinking and subsequent interviews. It was also necessary to become acquainted with relevant procedures, symbols and terminology (Moyser, 1988). This was particularly necessary for understanding the RWQ issue, how it was assessed and calculated, and the complex science underlying the various debates in the industry (though not to a professional standard). Also, significant personalities in each organisation were noted and the organisational charts from year to year. For this company reports provided factual data, as well as a degree of opinion. The latter was most readily found in the Chairman's preface for each year.

3.8.3.2 cross data referencing phase

This period was characterised both by the cross referencing of data for validation and the acquisition of new data. Midway into the research access was gained to OFWAT's library and a day was spent looking at material on privatisation which had been donated by the former NWC. Other sources of documentary evidence were provided by the interviewees themselves, such as stock market reports, policy documents and copies of slides used in directors meetings. In this way interviewees had predicted the sorts of information which would be of value and which could not be gained from the companies. The process of cross referencing aided analytical thinking and provided the basis for the early analytical writing.

3.8.4 in-depth interviews

3.8.4.1 the preparation phase

In the first instance preparation is essential as Moyser (1988:123) notes: *To that extent, what is learnt while selecting potential respondents,...overlaps with and contributes to the preparation for the interviews themselves.* The archival preparation formed reference points in the interview and the responses. It was therefore important that the preparatory work was done thoroughly in order for the researcher to respond to reference points quickly, to appreciate their significance, and to use them in questions with an air of familiarity (Moyser, 1988). This will in turn help both to build the necessary degree of seriousness and rapport with the respondents and to avoid being fobbed off with trite, standardised or superficial answers. The selection of interview candidates was a combination of referrals (see 3.6.4) and careful examination of company reports for those directors and MDs who were significant from 1974. Thus one was interested in talking to directors and managers with a responsibility for rivers, quality and sewage, and to others who had been centrally placed in key divisions to observe structural and political relations, and above all who had a long association with the company. As Huber and Power (1985:175) advise: *...choose informants whose unique biases or lack of knowledge are likely to offset those of other informants.*

3.8.4.2 access

At a practical level, gaining access to individuals in both case studies was by networks which were established and exploited as fully as possible (Cassell, 1988), so that once the MD of Severn Trent had given me an initial list of (8) interviewees these were exploited to gain further contacts. Thus: *Everyone who might possibly know someone, or know someone who might know someone, must be contacted and ask if they will give introductions, vouch for one, and otherwise, help one's enterprise* (Cassell, 1988:95). This had mixed results overall. In Severn Trent the process was a fairly smooth one. Once the initial contacts had been made through

the sanction of the MD, further names to contact were elicited. Having conducted an initial set of interviews, credibility was then less of a problem. All potential interviewees would be contacted by telephone in the first instance. This was often the biggest hurdle as secretaries were found to be extremely efficient gatekeepers. Sometimes an appointment could be made through the secretary immediately, whereupon a letter of explanation would be sent confirming the time and date. At other times I would be asked to send in a letter explaining my research and would then be contacted by a secretary to fix an interview. Generally, the biggest problem was explaining to potential interviewees why a sample of one was not sufficient for the exercise.

Gaining access to Thames employees was more problematic. An initial list of six from the Chairman gained further contacts, mainly from long serving members who knew each other. Access to more senior executives such as the MD of the utilities proved impossible. This was attempted by phone, letter and fax, but the general resistance seemed to hinge on the fact that so many people had already gained or wanted access since privatisation. Having been told by various managers that the Chief Executive started early and was positioned next to his fax, the strategy of faxing at 8am, rather than an initial telephone call, worked in this instance. Another incidence of resistance occurred in the legal department where the executive director was deemed too busy. An appeal to the secretary was made who took it upon herself to contact the departmental manager and arrange an interview. Another point of resistance in Thames was temporal. The Thames interviews were conducted after most of the Severn Trent ones and after the preliminary period of archive research. This meant that the first set of contacts were not interviewed until January 1994. As this was the year in which the regulator set new limits on price increases, much activity was going on inside water companies to provide information to OFWAT by the March 31 deadline. This meant almost half of Thames interviews could not be contacted until the April, thereby slowing the interview process.

Access to retired organisation members was also a mixed success. In Severn Trent the pension administrator agreed to provide addresses of a preselected list of 7 retired senior managers and directors. These pensioners were sent a letter explaining the research and asked to participate. Two refused, one a former MD who had left after a short period under somewhat of a cloud and who did not want to review the experience. Another former MD felt he was too old to remember facts correctly. In Thames the pensions office agreed to contact a list of respondents for me, none of which replied. An alternative contact was sought in a former PA to the first Chairman of the TWA. He was able to tell me that quite a few potential interviewees had in fact died. He also had the addresses of 10 retired or ex-personnel and agreed to contact them for me. Again, none came forward and this avenue remained closed.

A bureaucratic slowness and/or the wrong message probably worked against closer contact: an example of what Schuller (1988) describes as the `cul-de-sac' in case study terms, where after a relatively short journey, a more or less insurmountable barrier prevents further progress. It is probably no accident that many of the former Thames employees on my list had been involved in acrimonious relationships during the 1970s and early 1980s. It is possible that particularly for those who now had new careers elsewhere (in two instances academia and consultancy), the demands of their present occupations were preferable to reliving those of the past.

Interviews with members of related organisations were sought. Those of principle interest were OFWAT, the NRA HQ, the DoE, the Water Services Association and the Drinking Water Inspectorate. Interviews were obtained with three out of the five organisations. The NRA's recently appointed director did not reply to a written letter. The head of the DWI was the only member with any long term experience of the industry. He initially granted an interview and was subsequently taken seriously

ill. Four months later he had still not returned to work and, nearing the time of writing up, one felt disquiet at badgering a by now probably unwilling respondent who was recovering from a serious illness.

3.8.4.3 the sample

A total sample of 40 respondents were interviewed for the study (see appendix 3.1). Thirty seven respondents worked or had done so previously for the case Organisations: 20 from Severn Trent and 17 from Thames. The other 3 were employed by OFWAT, the Water Services Association and the DoE and had long experience of the industry. Of those respondents from the case study organisations, all but one were or had been in senior management positions. Twenty five had joined the organisations in 1974, 7 during the 1970s, 3 during the early to mid 80s and 2 just prior to privatisation. This was to get as many long-term accounts as possible alongside those senior managers who had joined later from outside the industry and possessed alternative perspectives. Two respondents had worked in both companies. Six of the respondents had retired, one was in the last month of employment, two were working freelance and five were with the NRA; making a total of 13 who were no longer with the case study organisations. As Walsh and Ungson (1991) point out: *Basically, former employees retain a great deal of information about an organisation...they can retain a fairly accurate account of their former organisation's history, especially the history that transpired during their tenure.* Neustadt and May (1986) referred to such sometimes invaluable people as "old hands". Indeed many of the retired interviewees had long histories of employment with the industry and were important in recalling predecessor organisations, personalities and culture prior to 1974.

3.8.4.4 the interview pro-forma

The interview pro-forma was constructed in such a way as to guide respondents through a series of questions grouped around specific themes (Appendix 3.2). This

way respondents could focus on different aspects of specific topics at a time, thereby aiding recall. The intention was to ask all respondents similar questions but in a semi-structured way, in line with a conversational interviewing style (Burgess, 1988).

3.8.4.5 the role of the researcher

Cassell (1988) makes the general point about the basic relationship between the observer and observed, that the researcher has a crucial and irreplaceable way of `knowing' the Other. This deep or (Polanyi, 1966) `tacit knowledge' involves what has been variously described as intuition, empathy, hunches. Devereux (1967), using a psychoanalytic analogy, calls this method of knowing `countertransference'. What all these terms describe are the resonances set up within ourselves by the behaviour of the people we are studying. This involves not only the practical knowledge of gaining access and interaction but documenting one's own involvement in the generation of knowledge. What Cassell does not make clear is that the awareness of these resonances is a learned skill, so that much in the same way that a psychoanalyst must engage in many years of self analysis, the social scientist if she is to utilise such data must have a grounding in communication and self awareness. This latter is the most problematic of all to demonstrate but is perhaps best achieved by making clear the role of the researcher in the knowledge generation process.

One can not deny that in all interpersonal research interactions a degree of opinion forming takes place on both sides. Cassell advises that whatever our opinion we must like those we study enough to remain open. Such openness allows us to receive impressions, both favourable and unfavourable, so that we can use the reverberations set up in us, by the behaviour of the people we are studying, to help us learn who they are and what we are observing. A researcher rarely has anything tangible to offer. One can, however, be an intelligent, sympathetic and non-

judgemental listener. This researcher took the view that both openness and respectful empathy were essential in establishing and maintaining a dialogue. Each interviewee was approached as a unique individual, with personal accounts to tell, which the researcher was grateful to be allowed to hear.

As with self awareness, so social awareness was deemed to be an important aspect of the interview process (Cassell, 1988, Burgess, 1988, Moyser, 1988). The researcher had to be attuned to issues of security in gaining access, and respect the confidentiality of certain materials. The social sensitivity extends to self-presentation, to fit in to the organisational situation. It was deemed most appropriate to dress and speak acceptably in the language of business. One also had to be careful about scientific terminology and learn to use it correctly: *The interviewer has to be prepared to adjust his stance according to the needs of the situation in order to promote the efficacy of the exchange* (Moyser, 1988:126).

3.8.4.6 tape recording

Interviews were tape-recorded in all but one case. Goodman and Pryluck (1974:311) describe the interview in tape recorded form as a primary source for the researcher: *Since it reproduces the direct statements of an individual, it is, in effect, a memoir. This is a further strength of the oral interview, inasmuch as one purpose of oral history is to "increase the quality and quantity of traditional source material and the memoirs created are a supplement, not a substitute for them." ...It offers an important opportunity to evaluate not only what is said, but how it is said.*
Interviewees were always asked if they objected to being tape-recorded and it was stressed that all interviews would be confidential. One manager insisted on note taking because he felt it would be easier to speak his mind. This particular interview proved to be one charged with emotion and many complaints were made against the company and OFWAT. This manager also revealed his ambitions for a director's post and no doubt did not want to risk jeopardising his chances, however slight. In

order to preserve as much of the data as possible, the missing gaps in the notes were filled in on the train on the return journey, and the whole interview was transcribed as fully as possible on getting back to the office. In two cases the interview was conducted over the phone, one of which was taped. The interviews lasted on average 77 minutes with a range from 20 to 150 minutes.

3.8.4.7 style of interviewing

The preliminary to the interview proper consisted of a brief outline of the research, an option on the use of the tape recorder, and an assurance of confidentiality. As a general rule, the interviews began in the same way by asking the respondent about their current position and career history. Those managers who had considerable organisational tenure were asked to give their impression of the overall development of the company. It was felt that asking respondents to think long term at the outset helped organise their thoughts for the remaining questions. Interviewees with shorter time experiences were asked to reflect on the organisation when they joined. The interview schedule then followed a chronology of events and personalities from 1974 (or whenever they joined), then moving on to themes around policy making, river water quality, regulation, privatisation and culture.

In practice it was not always possible to stick to the schedule in any strict or rigid way and still maintain the sort of conversational style that is required. For example, it is often the case that in responding to one question another will also be answered. Equally, a new line of questioning may open up unpredictably, that seems promising enough to be followed, as in the case of post privatisation issues. By the same token, in the rapport-building preliminaries, when the outline of the project and the purpose of the interview are (again) being briefly outlined, the interviewee may introduce a comment that provides an excellent hook on which to start the interview proper - but at a point half-way through the written agenda order: or as in the case of one director who began talking after the initial greeting and did not stop

for 30 minutes! In short the researcher had to be prepared to work through the schedule in a flexible and possibly idiosyncratic way.

This all adds to what is a heavy burden on the interviewer: first, to listen carefully to the responses in order to sort out obscurities, inconsistencies or partial answers, and simultaneously also finding a way (preferably through comments made by the interviewee) that allows for a natural progression to further topics on the agenda. The interviewer must develop appropriate phrases on the spot and then formulate questions that introduce, or probe, possibly sensitive topics, all the while monitoring the coverage of the agenda (without seeming to do so), and keeping an eye on the time, so as (if necessary) to try to curb verbose (and possible defensive) responses. In many cases the time overran the allotted hour and this was usually due to the willingness of the interviewee to talk. In particular, as may be expected, retired respondents had more time on their hands and were happy to reminisce.

3.8.4.8 evaluation/limitations

The utility of the interview outputs was judged principally in terms of the quality and relevance of the materials generated in relation to the substantive goals of the project. Clearly some respondents were more revealing and reliable than others, although this had generally more to do with their length of time and status within the organisation than any resistance or lack of knowledge. For instance, certain respondents had specialist knowledge in fields other than water quality or pollution and had never been concerned with these issues. Such respondents were used mostly to talk about issues pertaining to other aspects of organisational development and change.

Being sensitive to time (Pettigrew, 1975 and 1985a) and the subjective interpretations of actors, judgements can be contradictory, both between accounts and historical data and between respondents. Where this occurred in the former, the

alternative historical evidence was exposed and the respondent allowed to review his account or expose the weakness of the historical data. For instance some respondents were hazy on the precise dates of political interventions or specific incidents, such as the MMC enquiry in Severn Trent. In all cases the respondents acceded to the researcher's prior fact finding. In the case of contradictory judgements, respondents were presented with alternative points of view and allowed to hypothesise on the discrepancy. Thus former pollution control officers, with differing views on the effect of structural change in their department, could explain their alternative view in terms of differences in professional codes of conduct. In general, this study threw up few conflicting accounts of either variety and so the balance of the empirical evidence was not felt to be an issue.

Central to this exercise is the question about the veracity and reliability of respondents even in matters of opinion. In part, this took the form of an internal assessment of the interview. Personal recollections and judgements were noted immediately after each interview about the respondent as an individual. For instance, was there an impression of frankness, openness and spontaneity? In most cases there was. Respondents did appear considered in their responses and forthcoming. Some even thanked the researcher at the end for an opportunity to go over past events and consider them in the context of the present. It was the researcher's general impression of the water men that they were dedicated professionals, with an objective and long term interest in and attachment to the industry. Where possible, follow-up probes were used to ensure questions were understood and for completeness. Also reference was made to earlier questions to increase the likelihood of reliability.

3.8.4.9 transcription

All interviews were transcribed by the researcher and this phase was built into, and run in parallel with, the interviewing phase itself. This was a lengthy process as it

was felt necessary to capture every word and to be mindful of the nuances of certain statements: particularly as in this type of research, where the themes and structure of the analysis emerge as the research proceeds. At one stage the services of a secretary was sought but this provided not wholly accurate transcriptions of the tapes and necessitated the researcher going over them to double check.

3.8.5 observational material

The collection of observational data was slight in comparison to the other types but contributed to a general `feel' for current organisational life. The majority of the time spent within the organisations when not interviewing was in the library. Here there was an opportunity to have informal chats or experience chance incidents. In one instance the library team were recovering from the shock of finding out their Director had been planning to close them down. It was only the chance sighting of a memo by the head librarian which allowed action to be taken in time. Fortuitously, one criterion for remaining was the amount of use the library received (from both staff and the general public), and as records to that effect had been well kept the library was saved. It was remarked that my presence was useful in boosting the figures. Thus in some way I was able to reciprocate their help. Additionally, however, this gave one an insight into the dynamics of decision making post-privatisation. The fact that the Director had never visited the library and was acting on balance sheets alone indicated a key driver.

Informal conversations with librarians in both organisations gave one insights into non-managerial perceptions of working life post-privatisation. It also gave the researcher a general `feel' for the organisational atmosphere. For instance, at both companies security was very tight; a register, name badges and an escort were needed when going to different floors in the building. These were procedures which one organisation's library staff said had escalated since privatisation and appeared to them to denote a certain atmosphere of tension within the building. It also indicated

to the researcher the degree of sensitivity within both companies towards industrial espionage.

Staff who used the library were at times other sources of unexpected information. One junior manager had been sent by his head of department to do research on the urban waste water directive and was having some difficulty in finding information. This gave the researcher an opportunity to engage in conversation by suggesting likely sources and it indicated the degree of importance in which that particular issue was held.

Other informal meetings with staff occurred, when for instance a respondent organised a lunch for the researcher with his section staff. As this was the team which had put together the periodic review for OFWAT, they were a valuable source of information on current issues and attitudes towards regulation, and the future of the industry in general.

3.9 Analysis

3.9.1 the analytic process

Much writing on the process of analysing qualitative data has been described by other authors in terms more appropriate to novel construction: for example, as an exercise in generating sophisticated description and building patterns (Van Maanen, 1988) and even as the craft of the crime writer (Mintzberg, 1979). Van Maanen (1988) denotes a process of searching for rich and complex descriptions, building them up using the skills of an investigative detective and then ordering and presenting ideas in a finely honed narrative. Strauss (1987) is also concerned with capturing complex descriptions, but is more explicit than Van Maanen (1988) in how this is to be carried out. Like Huberman and Miles (1983), Strauss (1987) is particularly strong on the operational elements of simplifying complex data through

techniques of data reduction and display, but as a consequence Strauss underplays the importance of some of the more strategic elements of the process, such as making explicit the researcher's meta analytic framework and the character of generic propositions being sought (Pettigrew, 1990a).

A more demanding role for analysis is implied by adopting the realist paradigm. More than establishing patterns and relating these in sophisticated and novel ways, the realist is concerned with what has caused the patterns: *What are the structures or generative mechanisms and the contingent factors responsible for the observed patterns* (Tsoukas, 1989:556). The analytic process involves a gradual transition from actions, through reasons to rules, and finally to structures and causal powers. A realist framework is adopted in the present study as it conforms to the requirements of process strategy research to make explicit the generic propositions and analytic framework, as well as making clear how one operationalises category formation, pattern recognition and meta-level constructs (Pettigrew, 1990a).

3.9.2 analytical framework

The complexity of capturing social reality is a cyclical process involving periods of alternating complexity and simplification. While complexity is necessary to appreciate the diversity of the subject matter, so periods of simplification are required to reduce the tension and aid cohesion. The simplification period is then validated with further data collection and complexity and so on. With each cycle of complexity and simplification comes greater analytical and conceptual power.

One important means of reducing complexity is to make written accounts of emerging themes. In this case, several written accounts were made during the course of the research in order to clarify thinking about analysis and the quality of the data. At each writing the level of focus was different, moving from a historical case study with initial themes of organisational development, to a paper exploring

the micro political processes of strategic agenda building, to one which explored the linking of macro political events to changes in organisational ideology. This process of writing at various junctures in the research served as a feedback mechanism to the researcher. They demonstrated the utility of the forms of analysis chosen and enabled the researcher to test out new ideas. The actual writing of the dissertation commenced when the researcher judged the quantity and quality of the data to be sufficient for the final analysis.

Each of the different research outputs assisted the inductive process of pattern recognition and theory building. Pattern recognition and category formation occur throughout, the process being one of greater refinement and sophistication. Briefly, the analytic framework involved three distinct phases, within which occurred data collection, analysis and outputs. Each type of data, level of analysis and output, informed the next stage. Briefly these can be summarised as a series of discrete steps although in practice the process was iterative and at times opportunistic:

Preparatory Phase

1. Archive data on industry and organisations: visual aids: chronologies
2. Analytical schema for document analysis: visual aids: agenda analysis & issue analysis: the case as analytical chronology

Cross Data Analysis Phase

3. Interview pro-forma: Interviews: analytical schema for interview analysis: interpretative/theoretical case.
4. Analytical schema across cases: interpretative/theoretical case.

Meta-level Analytic Phase

5. Abstraction and conceptualisation across theoretical constructs.

These phases conform closely to the three stage realist framework proposed by Tsoukas (1989). The first stage has two parts: resolving the actions of the

phenomena under study into constitutive components, and theoretically redescribing those components to reveal their inner constitution. In this case, the preparatory phase involved resolving agenda building into the characteristics of strategic issues and the agenda structure. Organisational developments were resolved into continuity and change via chronologies. The theoretical redescription of agenda building was manifest in relating the agenda structure to organisational phases. The accounts of organisational evolution were theorised as a pattern of eras of continuity interspersed with briefer periods of radical change (Pettigrew, 1986).

The second stage involves moving from actions to reasons. This means asking actors to account for why the particular actions have occurred: as with the cross data phase, where interviews developed out of archival work were tested to illicit further explanation. The two interpretative cases which resulted from this phase were important in exposing fundamental social rules around the suppression and promotion of issues and the role of ideology in continuity and change.

The third stage is where abstract analysis and conceptualisation are employed to reveal the structures and causal powers associated with the rules invoked by the outputs of the previous stage. Here an account is given of empirically researched contingencies alongside a definition of causal powers. In addition it must be shown where these powers emanate from, or the structures which legitimise them. It is the patterns of integration between these powers and contingencies which call for meta-level analysis. In this way the researcher is able to demonstrate the precise manner in which causal powers shape the organisation they help generate via their interaction, and by their links to the prevailing contingencies. The meta-level analytic phase thereby draws on the interpretative cases, to isolate the social structural rules and resources accounting for strategic issue trajectory and ideological change. Drawing on Giddens' (1984) theory of structuration provides

the conceptual framework to explain the agency whereby issues are promoted and suppressed and changes in organisational ideology.

3.9.3 preparatory phase

At this initial stage the aim was to understand the constitutive components which make up the agenda building process and organisational continuity and change. In particular an early impression of the horizontal and vertical dimensions was considered important. To this end, techniques of data reduction and display were crucial, both as aids to analysis and to deal with unfamiliar and plentiful information.

3.9.3.1 chronological analysis

The primary purpose for initial analysis of archive data was to create an industry chronology as well as organisational chronology. These could then be incorporated into an interview pro-forma. In particular, the significance of organisational events, personalities and key changes was emphasised. The industry chronology provided a backdrop to sector level developments, the most important being the reorganisation in 1974, nationalisation in 1983 and privatisation in 1989. The interest was in ascertaining how these major sector level events reverberated inside the case study organisations. A clearer understanding of executive opinion, and resultant organisational action, on these issues could be gleaned from the Chairman's preface of company reports and from articles written in professional magazines and journals. The initial analytical exercise then was to ascertain a crude historical context, against which to set the detail of further analysis. Thus the key political, economic and social factors could be woven into the sector and organisational contexts.

A flow chart of the organisations was constructed showing a time frame from 1974 to 1994. The vertical axis depicted natural events at the top, underneath appeared

macro and sector level events. Beneath these were key features of the organisations also running in parallel: executive control, Chairmen, CEOs, Structure (no of divisions), RWQ influences and internal events (Appendix 3.3). These charts helped to provide first impressions of vertical and horizontal linkages.

3.9.3.2 analytical schema for document analysis: company reports

Next, the internal context of the organisations was captured in more detail via the coding of strategic issues. What were the key issues on the agenda and how were they interpreted? The primary source of data for this was the Chairman's Preface or Statement to the annual reports and accounts. This section of the report dealt with the main strategic issues concerning the organisation while the main body of the report tended to be divided up into functional areas. Where elaboration of an issue was needed this could be found within the main report, provided it concerned core functions. Only the Chairman's Statement dealt with far ranging strategic issues.

A chart was created showing the set of strategic issues under consideration for each year. These were colour coded into 11 broad categories: inheritance, financial/resources, govt/legal, internal events, stakeholders, structure, water resources, discharge consents, RWQ, external events, and weather. This exercise was useful in three ways, first it enabled the researcher to become familiar with the range of strategic issues over time and how they could be grouped. Secondly, the chart enabled the researcher to ascertain at a glance the competing issues on a year by year basis. Thirdly it provided a longitudinal perspective on the duration and/or reemergence of particular issues over time.

3.9.3.3 the case as analytical chronology

The main objective of this output was to create a picture of organisational development. Within this, the aim was to understand how the companies understood and responded over time, to the issue of river water quality (RWQ). The prior

analysis of strategic issues proved useful in displaying the range of strategic issues confronting the organisation.

At first the principle theme in each report was ascertained to get a feel for developments on a year by year basis. Also the initial work done on issue coding allowed the researcher to see how sets of issues contributed towards the thematic content of the reports. For instance, the first two years of STWA reports were concerned with what they had inherited from their predecessor authorities and so were labelled inheritance. This was followed by three years with an emphasis on achievements, and so on. These yearly themes could then be grouped in order to arrive at a larger category of eras or phases of organisational development.This categorisation provided insights into the evolving identity of the organisation, allowing an interpretation of broad phases and change periods.

The second step was to categorise the key issues in order to understand what meanings these might have for the organisation. Research on issue dimensions by Dutton, Walton and Abrahamson (1989) found by far the largest dimension of issues cited as important was content: that is, if issues concerned the core business such as mission, role or resources, or the general environment. Consequently all the issues were categorised according to their content. It has been suggested by Dutton (1988a) that the size and variety of the agenda structure plays a role in the eventual placement of any one strategic issue. Perhaps the character and diversity of the strategic agenda would provide insights into the rate of uptake of new issues? The total number of issues were noted annually, their different content categories and how often they reoccurred.

The emphasis on interpretation and labelling of issues in the literature (Dutton and Duncan 1987b, Dutton and Jackson 1987, Dutton 1988a, Dutton et al 1989) suggested categorising issues according to how they were perceived, ie positively or

negatively. The locus of an issue has been found to be significant in information processing (Dukerich and Milliken, 1987). Also, it was considered important to understand the connection between the inner and outer contexts of the organisation. Therefore issues were classified according to whether they were internal or external to the companies.

The importance of managerial beliefs about causality has been noted by Barr, Stimpert and Huff (1992) and each strategic issue was categorised according to whether it was attributed internally or externally to the organisations. Finally, the links between issues have been debated (Dutton et al, 1989) and although there is no clear evidence for the importance of this dimension, the type of interconnections is deemed important, such that those causally connected were cognitively bundled together, as in heuristics for problem solving. Therefore it was recorded when any individual issue was linked with RWQ and whether positively or negatively. This also served to give an impression of how RWQ was linked to the agenda structure.

The above analysis was carried out using a separate form for each year divided into the categories derived from the literature. The structure of the form was arranged such that issues were listed vertically in the groups in which they were mentioned in the reports. Across the top of the form were the categories: location (internal/external), categorisation (positive/negative), causality (internal/external), RWQ (positive/negative). Horizontally beneath each group of issues, a note of the intended action was made. This method of categorisation could later be refined into a graph of the agenda structure, depicting its size and variety over time. This type of pictorial representation allowed one to see how the agenda structure contributed to the pattern of organisational development. So, for instance, Thames showed a broad pattern of decreasing size and variety of issues from a high in 1974 to the mid 80s, whereupon both measures begin to increase after the first privatisation debate. One was also able to infer from the issue analysis the predominantly negative

character of the issues until the nationalisation of the industry. Thereafter issues are both negative and positive during the 1980s, while after privatisation they are predominantly positive.

The second stage of issue analysis focused on the RWQ issue itself. The primary data for this came from annual reports and in the case of STWA, additional information was provided by Water Quality reports. The annual reports provided separate chapters on RWQ and effluent quality (EQ), while the Water Quality reports gave an overview from the Water Quality Panel with the Chairman's Foreword and supplied more detailed commentary in the separate sections under effluent quality and river water quality. The twin strands of effluent and river water quality are by their interactive effects inseparable in understanding WA's response to RWQ. Therefore they were given equal and joint analysis in each report.

The interpretation and labelling of an issue is said to have an influence on organisational adaption to the environment (Dutton and Duncan, 1987b), the information processing and motivation of key decision-makers (Dutton and Jackson, 1987), and the greater the resources devoted and centralisation of authority in tasks re the issue (Sallivan and Nonaka, 1988). The companies' interpretation of RWQ was established by noting how the company rated its own performance on RWQ and EQ. For most years a general statement of trends in the performance was made as well as a more precise statement regarding the year in question. The company's own description acted as a guide to how positively or negatively RWQ was viewed. This was usually supported by some measure of evaluation which varied in the Foreword and annual reports from general terms, such as the presence or absence of fish, to more precise measures using the classification scheme. Detailed measures of performance were provided in the form of tables, graphs and diagrams within the main body of STWA's Water Quality report and Thames annual reports.

As with the previous stage, causality was considered an important dimension and so it was noted whether performance in RWQ or EQ was attributed to internal or external factors. Equally it was seen as important to note any constraints which might be linked to the immediate causes and their locus. The causal dimension was further developed by noting how companies attributed their future performance in RWQ and EQ.

The action dimension has been found to have a greater utility for decision-makers (Dutton et al, 1989), particularly attributes related to individual or organisational control. It was therefore decided to establish the level of organisational control over RWQ by noting the type of actions taken, including how these might relate to company interpretation of their performance. This was expanded to include statements about intended actions.

As in the strategic issue analysis, a form was devised for the RWQ and EQ issues on a yearly basis. The first half of the form was divided vertically into RWQ and EQ. Beneath each issue were 7 categorisations: overall and current performance, their attribution, constraints, actions, future performance attributions, intended actions. In keeping with the contextualist approach, the second half of the form was devoted to external contextual categories: economic, social, governmental; industry categories: industry wide (events), legislation, EEC, standards, classification (river & sewage); and organisational categories: industrial discharges (including pollution incidents), and internal actions. These yearly forms were reduced to more abbreviated tables showing the information at a five year glance. In this way the repetition and honing of information served to enhance familiarity and reduce complexity (Pettigrew, 1990).

Analysis of RWQ tables showing classification of river lengths was translated into graph form showing the trajectory of the 4 classification groups over time,

alongside graphs of objectives and anticipated results. Similarly graphs were made of EQ tables showing the degree of compliance with RQOs. These graphs were valuable in providing a pictorial representation which could be analysed alongside those of agenda structure and organisational phases.

The resultant combination of data display techniques: flowcharts of chronology, graphs, tables; all allowed the researcher to write the first organisational chronology, in which an attempt was made to deduce broad organisational eras and transition points. This theoretical redescription of the strategic issue and organisational evolution components, suggested early interpretations of chronology, pointed to emerging conceptual frameworks and drew together theoretical ideas (Pettigrew,1990). The career and trajectory of the RWQ issue could now be seen as embedded in a multi-dimensional context and bound up in organisational evolutionary processes, suggestive of periods of radical change interspersed by longer periods of continuity (Pettigrew, 1986). Equally importantly, all data gave useful lines of questioning for interviews, and were the springboard into pro-forma construction and the testing of initial ideas in the field.

3.9.4 cross data analysis phase

This phase asked for manager's accounts of the chronological and developmental phases of their organisation, and to explain the trajectory of the RWQ issue which had emerged from archival analysis. In this way one could identify analytical themes which cut across the data and get a sense of the emerging rules invoked by respondents. Constructing the interview pro-forma was the first step in asking for reasons, which generated more data gathering activity and further explanation in turn.

3.9.4.1 interview pro-forma construction

Pettigrew (1990) sees the pro-forma in its creation and use as an instrument to link

the deductive and inductive elements of analysis. This stage ties specifying theories of method, the meta level analytical framework and the character of generic propositions, with data reduction, display and theoretical elaboration.

Pro-forma construction was explicitly linked to the starting meta level analytical framework, operationalised from historical and archive research and tested and refined in the field in early data collection. The pro-forma operationalised the context, content, process framework and linked it to the specific themes of the study. The "what" level information having been verified by archival analysis, the researcher moved out from the what (chronology of issues and change) to begin to build up a picture of the "why" and "how" of these developments. The initial pro-forma contained a set of broad themes: personal details, organisational development, leadership, policy-making, regulation, pollution control, RWQ, standards, EC directives, and privatisation (Appendix 3.2).

The initial interviews proved to be an important source of revision for these areas of enquiry. For instance, some questions of a purely factual nature became redundant as the interviewees filled in the knowledge gaps. Other areas expanded to include topics which were introduced (such as the divisional context) and to build upon points of view. Even areas of a factual nature could not all be taken for granted, as in the case of the change in RWQ measurement from Imperial to the 95th percentile. Some respondents regarded this as a neutral translation while others regarded it as a loosening of standards. Very early on it became clear that interviewees wished to talk about the changes which had occurred since privatisation and the stark contrast this provided to Water Authority days, in some cases having to be guided away from this focus to other topics. This seemed to be an important topic for managers, largely because it provided substantial contextual background for the way in which strategic issues were interpreted and/or acted upon. It was decided, therefore, to include more detailed questions about the

privatisation process and how this had manifested itself in concrete changes within the organisations. Indeed much of the questioning in this area sought confirmation or otherwise of previous reports. It was felt that privatisation could not simply be talked about in terms of the regulatory changes on the organisation. Therefore it was decided to explore the impact of this transition more fully to understand its operational and decision making effects.

The interview pro-forma thus evolved to include questions about a whole range of issues both directly and indirectly related to river water quality and organisational change and culture. The interview schedule in its final state was the same for both companies except for different names of directors and incidents specific to the organisation. It was longer and more contextually embedded. As well as post privatisation developments, it also explored more fully some of the scientific issues and debates around standards which arose out of the initial interviews.

3.9.4.2 analytical schema for interview analysis

The first attempt to analyse the interview data was made after 12 interviews in Severn Trent. The aim at this stage was to write an interpretative/theoretical case on the packaging of strategic issues. This writing used as its basis the prior analysis of the career and trajectory of RWQ and the chronological case. The interview data was initially coded by going through the transcriptions to see the type of responses which had emerged over the issue of RWQ. These responses could then be coded via different colour markers until clear groupings emerged. Headings were devised for each grouping and a list of quotes assembled under each, allowing easy reference for comparison between individuals. Analysis of each group was conducted via the constant comparative method Glaser & Strauss (1967), resulting in individual themes being refined into categories, under which individual responses could be compared. This reduced the volume of data to units of meaning. So for instance, it became clear that former pollution control officers had different

perceptions about the issue of RWQ compared to managers of sewage treatment plants. This disparity was clarified in terms of organisational structure which undermined the autonomy of the pollution control officers. In this way one arrived at a category of issue suppression and its sub-headings, dilution of regulation function and structure.

Further, one could link these organisational structural changes with the power struggle at headquarters, which in turn had its roots in the industry arrangements prior to 1974. In this way the analytic process involved making links between interview categories, archival and historical data, so that each theme emerged out of a juxtaposition of data sets over time. In this way further subheadings emerged such as pre 1974 sector arrangements and leadership.

Additionally, one sought to contextualise the themes in order that the legitimising processes of social action might be more fully understood. In this way one could see how the undermining of pollution control was legitimised by the constraints on capital expenditure imposed by central government. This led to several categories under the theme of organisational response to pressure. The analysis was in this way conducted along both horizontal and vertical dimensions with analysis of the vertical dimension seeking patterns between multiple levels of context. In this way one built up a pattern whereby links between the political and economic context and internal structural change, resulted in consequent organisational ramifications to the handling of the RWQ issue.

Further, more detailed propositions could then be derived from this overlay of the vertical upon the horizontal dimension. Such prescriptive statements acted as an aid to analytical generalisation. Also, greater interpretative powers could be given to Dutton's (1988a) SAB model. These propositions, relating to the way in which strategic issues were suppressed and promoted, could then be tested out in further

data collection and analysis. It was after this first attempt at cross data analysis that further interviews were conducted within Severn Trent and the Thames case study began, following exactly the same procedure as outlined. The two organisations showed very similar developmental patterns and strikingly similar stories were told by Thames managers and directors. This led to some further induction around the source and role of managerial beliefs and suggested the use of the punctuated equilibrium model (Tushman & Romanelli, 1985) as a useful theoretical framework for describing continuity and change.

3.9.4.3 cross case analysis

This phase was triggered by writing a paper across the two cases in order to consolidate the inductive process. Here the focus was on ideology and change within the cases, involving a first attempt to link all the data along one theme. Tushman and Romanelli's (1985) punctuated equilibrium model was utilised to explain the similarities of organisational continuity and change. The focus on ideology or managerial belief systems arose out of the similarity of accounts between the cases about the content, context and rate of change. An analytical schema across cases was devised to establish operational links between levels of analysis. In this way an attempt was made to capture action and context over time. The data reduction began in the same way as the preceding stage with the coding of the interviews into categories. Here the burden of transcribing hundreds of quotes was reduced by putting the page number under the respondent's name next to the relevant category. In this way one could establish where all the relevant quotes were in 37 interviews and select the best from each.

Analysis at the horizontal and vertical levels was conducted as described above. This resulted in an emerging pattern of organisational development and action within a contextualist framework of history, macro-environmental and sector features. The resulting proposition about managerial belief structures linked these to

a sector ideology which had been transformed under the macro-political ideology of the New Right. In this sense, this paper approached organisational action from a much more macro-perspective by tying it to broad sectoral and political influences. More importantly, the investigation had shifted to include organisational ideology as an expression of organisational evolutionary patterns.

3.9.5 meta analytic phase

The meta level phase utilises Giddens' (1979) structuration theory and an institutionalist perspective. These together provide the conceptual building blocks to explain the analytical themes and to join together the two polar aspects of the early research findings. The water companies are conceptualised as temporal social systems with intrinsic structural properties comprised of social structural rules and resources (Whittington, 1992). A meta level analytic framework can then be constructed, comprised of a horizontal level of analysis, showing the evolution of the water companies from predecessor bodies, to the 1974 reorganisation, through nationalisation and privatisation. Down the vertical axis are the social structural rules and resources: dominant structures, basic resources, basic rules, and organisations (Fig 3.2). During each organisational period the RWQ issue is examined as an activity system showing the key influences:

Water Companies	Predecessor	1974 Reorg	1983 Nationalisation	1989 Privatisation
Activity System	RIVER WATER QUALITY REGULATION			
Dominant structures	Communal Judicial	Communal Judicial	Communal Judicial Environmentalists	Communal Judicial/EC
Basic resources	Scientific Expertise Legit coercion	Sc Expertise	Sc Expertise	Legit coercion
Basic rules	Prof codes	Min cap exp RQOs self-regulation	Financial Controls self-regulation RQOs	Compliance SRQOs
Organisations	River Authorities Prof bodies	WAs/DoE Prof bodies NWC	WAs/DoE Prof bodies WSA	NRA Prof bodies

KEY: WA: Water Authority; RQOs: River Quality Objectives; SRQOs: Statutory River Quality Objectives
Sc: Scientific; Prof: professional; Min cap exp: Minimise capital expenditure

Table 3.2 Structural Evolution of the RWQ Issue
Adapted from Whittington (1992)

This tabular display is but a crude example and there is much more scope for developing more detailed and precise tabulations. However, it allows one to integrate the phenomena of RWQ into a coherent framework thereby allowing for a more powerful conceptualisation of both phenomena.

The demonstration of causal powers is possible by reference to the social structural rules and resources influencing the phenomena. For instance, the RWQ issue prior to 1974 was an important one in the sector, because it was managed within River Authorities (RAs) set up for precisely that purpose, staffed by individuals with high levels of scientific expertise, who regarded their work as a vocation and followed professional codes of conduct. The empirically researched contingencies are the contextual features of that era, so that these causal powers could be exercised in a fragmented sectoral environment, where the power of Drainage Authorities was low, where RAs had the sole regulatory power as endorsed by statute and their own financial resources. The structures responsible for RA's powers are the legislative powers of the state responsible for their existence and the authority structure itself which is vested with regulatory power. Also the professional bodies to which pollution control officers belonged and which legitimised scientific procedures and codes of conduct. Ultimately one might refer to the scientific method as an academic structure legitimising procedure, or the type of actions taken to prove the culpability of the polluter.

This analytic process is then applied to the RWQ issue over time which indicates what has happened to the activity system responsible for this issue. In this way we can see RWQ being subsumed into Water Authorities after 1974, coincidental with lowered concern, and not reemerging as systems in their own right until 1989.

One can then look for linkages between phenomenon. So for instance the decline in the salience of RWQ after 1974 can be explained by the loss of legitimate coercion

being part of a monolithic water authority. With only scientific expertise as a basic resource, this was easily countered by the dominant rule to minimise capital expenditure which overrode even those of achieving river quality objectives and self regulation. This arrangement served to undermine the autonomy of pollution control officers, resulting in structural properties, such as professional codes of conduct, being left dormant.

In the above manner, the phenomena under study can be accounted for in terms of causal powers and the structures they emanate from. The contextual emphasis of this research gives a grounding for understanding the patterns of interaction between powers and contingencies. In particular a powerful contingency is that of time and of understanding the development of phenomena through time. However, if we are not to conflate structure with agency we must explain how organisational members manage change. Here Giddens' (1984) stress on the intersection and contradiction of social structures can reconcile the two concepts.

As Whittington (1992) makes clear, there are two principle forms of agency. The first is achieved by managers recognising the internal ambiguity and plurality of rules which govern the reproduction of a particular set of social structures. For instance, the water authorities after 1974 were a plurality of functions: water, sewage and regulation, each with objectives and modes of operation in conflict with the overall public health ideal. Therefore, in the late 1970s when public expenditure was tight, water managers were faced with Treasury controls to cut capital expenditure, an authority mandate to provide an acceptable level of service to the public and commitments to RWQ objectives (RQOs). Where managers are faced with a variety of legitimate but conflicting rules of conduct, then choice is possible, albeit constrained by the differing magnitude of powers inherent in the structures.

The second principle form of agency is more powerful in supplying options from the contradictory overlapping of various structural rules and resources. Here managers may exploit the external contradictions between the system's intrinsic structural properties and alien rules and resources, either imported by others through their multiple organisation membership, or introduced by necessary relationships with other cross- cutting systems of activity. So for instance, we might explain the way in which Roy Watts lobbied for privatisation of the water industry. By evoking the New Right philosophy of the Tory government to create efficiency and pay off government loans, he could then exploit the obvious contradiction in government policy which increased the rate of return to the Treasury and raised prices. By arguing government was a bad manager he could employ capitalist logics to call for privatisation as the champion of the people. In this way, Watts was exploiting not only the inherent contradictions in government policy, but also those of the status of the water industry as both nationalised and regional body.

This analysis also explains the way in which the suppression or promotion of strategic issues indicates managerial choice and agency. What contradictory or external systems do managers call upon when they insist on maintaining standards? What structural rules and resources are invoked or left dormant, to suppress strategic issues? More importantly, for the comparative nature of this research, one might explain differences in performance outputs in the same way. Both Thames and Severn Trent had new Chairmen in 1983 who imported capitalist logics of commercialism into their authorities. While John Bellak used the commercial language of quality and customer care to argue for maintaining standards, Roy Watts emphasised efficiency to rationalise downsizing and expenditure cuts. Thus both Chairmen employed the logics of the same dominant structure to invoke the promotion and suppression of RWQ. In this way structuration has proved a powerful theory for understanding complex micro political and ideological organisational phenomena in action and over time.

3.10 Conclusion

This research has attempted to wed the contextualist and realist theories of method in a comparative case study. Each theory serves to reinforce the others assumptions and contributes new dimensions of analysis. The realist paradigm has enhanced the contextualist's concern with levels of analysis by specifying the "what" in terms of structures and causal powers, the "how" in terms of contingent factors and the "why" in terms of the generative mechanisms underlying agency.

The contextualist theory brings dynamism to the realist perspective with an emphasis on the temporal dimension. In this, the overlay of the horizontal level of analysis upon the vertical gives causal tendencies their dynamism, and indicates where indeterminate outcomes are a product of the contingent link of a set of causal powers. Additionally, realism is enhanced by the contextualist emphasis on holism and pattern seeking. This aids the analytical process of looking for patterns of interaction between powers and contingencies. In this way these theories make the distinction between causal laws and empirical generalisations, and real structures, actual events, and experienced events (Tsoukas, 1989).

If these theories of method are to retain an epistemologically valid position, they demand the researcher makes explicit their generic propositions and analytical framework. This involves being explicit about pattern recognition, operationalising category formation and meta level constructs. The contextualist and realist interpretation here, involve a cyclical methodological process, where data collection and analysis are intertwined, being both iterative and reflexive. They demand an open and potentially revisionist perspective on the part of the researcher toward the phenomena under study, and above all concrete empirical research.

SECTION 2: INDUSTRY ANALYSIS

This section aims to provide an account of the development of the water industry from its earliest beginnings in the public sector to the present day. The theoretical basis is the punctuated equilibrium model (Tushman and Romannelli, 1985) of change in conjunction with a process model of history. This history will follow periods of continuity and change in the industry and will attempt to link the key industry phases to the social, political and economic context of the day, and to show the influence of organisations and individuals in shaping developments.

This section is divided into three chapters: the first, chapter 4, discusses the history of the water industry in terms of distinct phases punctuated by discontinuous change. The punctuated equilibrium theory of change (Gould and Eldredge, 1977) is applied to the industry in what Meyer, Brooks and Goes (1990) term a revolution model. This model focuses on second order change in industries and they apply it to both the punctuated equilibrium and quantum speciation models, derived from biological theorising. In the first place, industries are conceived to be restructured and reconstituted during brief periods of quantum change which punctuate long periods of stability. Secondly, quantum speciation has been proposed as a mechanism whereby new organisational forms might emerge during such periods (Astley, 1985). Within this second order change a distinction is drawn here between changes that produce new organisational forms (recreations) and those which merely instigate new industry practices and structures (reorientations) (Tushman and Romanelli, 1985).

The next, chapter 5, will trace the trajectory of the issue of river water quality within the industry over the same time frame and using the same developmental model of continuity and change. River water quality is seen as a strategic issue whose salience for the industry is shaped by both 'objective factors' of the condition of rivers nationally and the political, economic and social context of particular eras.

Of interest here are the tensions inherent, both within the industry and between the industry and external contexts in establishing quality parameters and priorities.

The last, chapter 6, aims to describe and explain the development of industry level beliefs, here termed an ideology, which were instrumental in shaping the industry's response to structural and external contextual changes during the time frame of the case study chapters in section 3. These ideological beliefs will have their roots traced out to the wider society at large and in particular, to the impact of political developments in shaping industry ideology during the transition from the public to the private sector.

4. HISTORY OF THE WATER INDUSTRY

It is with such chains, such 'series', and with history in the long term that I have here been concerned: they provide the horizons and the vanishing-points of all the landscapes of the past. They introduce a kind of order, indicate a balance, and reveal to our eyes the permanent features, the things that in this apparent disorder can be explained (Braudel, 1981).

4.1 Introduction

Beginning with the emergence of the industry in the nineteenth century as a municipal undertaking, the industry developments and key changes are traced to the present day in the private sector. This chapter explores each phase in terms of industry trends, key developments, either in promoting or contrary to the main trends and the strategic issues of concern to the industry. In Braudel's (1981) terms, developments may be seen as events of a short term duration, trends as conjunctures of events, being continuous in the medium term; while issues occupy a position midway between the two, being at times medium term and continuous and at others, single short term events. Of particular interest here are the longer term issues of water resources, river water quality, industry structure, status and regulation which appear and reappear throughout the course of history.

After a slow and discontinuous emergence, the water industry has been characterised by five main phases of continuous (adaptive) development punctuated by two reorientations and two recreations, originating from both the wider social environment and from the industry and organisational levels (see Appx 4.1 for an overview).

4.2 Pre-Industry Developments

The industrial revolution in its beginnings around 1750 had far reaching effects on water supply and sewage disposal. Apart from the tremendous increase in population and the redistribution of population between urban and rural areas, the industrial demand for water increased rapidly. The gradual introduction of water-borne sewage systems led to a rapid and serious rise in epidemics, particularly cholera (Barty-King, 1992; Collinge, 1967; Hall, 1989; Kinnersley, 1988).

During 1843-45 the first Royal Commission sat to enquire into the water supplies of large towns and populous districts in England and Wales. The Commission's recommendations resulted in the Waterworks Clauses Act of 1847 and the Public Health Act of 1848, the foundation of modern water law in Britain. These Acts provided that water supplies were to be "pure, safe and constant", and of such a pressure as to reach the highest house within the area of supply.

4.3 Emergence: 1867-85

The impetus for the emergence of the industry arose from widespread concern with pollution and the control of water resources. The Rivers Pollution Commission which sat from 1865 to 1867 recommended legally controlling the management of rivers and their watersheds, to be placed under the superintendence of a central authority. The Royal Sanitary Commission 1869-71 advocated the setting up of Watershed areas each controlled by a Watershed Authority. Though it passed the Public Health Act 1875, embracing many of the recommendations of the Royal

Sanitary Commission, the Rivers Pollution Prevention Act 1876, and Public Health (Water) Act 1878, which made it the duty of all rural authorities to provide a supply of water to houses in their area. Parliament took no steps to implement the recommendations of any of the Commissions with regard to the control of water resources (Barty-King, 1992).

The 1867 Franchise Reform and 1875 and 1878 Public Health Acts gave local authorities (LAs) powers which hitherto they could only obtain through Acts of Parliament. Whereas in 1830 there were only 11 municipal undertakings, in 1878 there were 78. The Local Government Acts 1882, 1888 and 1894, together with the Gas and Waterworks Facilities Acts of 1870 and 1873, resulted in Britain's water supply being taken into municipal ownership at an increasing rate. But for resistance put up by private undertakings such as the Sheffield Water Company this trend would have been even faster. The Royal Commission on The Housing of the Working Classes 1885 stated that: *Prolonged experience has proved that the Vestries could not be relied upon to enforce the laws, and it was manifest that some effective provision must be devised for preventing them perpetually thwarting the intentions, and defeating the imperative enactments; of Parliament designed for the welfare of the Community at large* (Barty-King, 1992:138).

There was no dearth of well intentioned legislation. Disraeli's Public Health Act 1875 set up a nationwide system of sanitary authorities responsible for water supply and sewage, but the private water companies shared the doubts of the Housing Commissioners that the elected representatives of the people at local level had the

will or ability to carry it out. The Provincial Water Companies Association was formed in 1885 with Percy Blakelock, Chairman and MD of Sheffield Water company, as its first Chairman to voice its opposition. This later became the Water Companies Association (Barty-King, 1992).

Proposals for regional water management in England and Wales were mooted over a century ago. A series of essays was published in the Journal of the Society of Arts in 1879 on *Suggestions for dividing England and Wales into watershed districts*, as a competition. One proposal, the winner of a silver medal, called for 12 watershed districts with boundaries not much different from those now adopted, each containing one or more complete river basins, managed by commissioners who would have charge of all the rivers and water works in their district, so that *every drop of water falling in their district should be more or less under their control, from the time it falls on the land until it reaches the sea.* This proposal recommended conterminous districts, with separate commissioners for sewerage and sewage treatment because *...the Commissioners of Water Supply will be much more likely to guard the rivers jealously from pollution if they have not themselves the task of purifying the polluted waters of the sewers* (Toplis, 1879: 696-709). Thus, the 'poacher gamekeeper' conflict (see 4.8.7) was seen to be an issue from the start.

4.4 Continuity: Municipal Consolidation 1885-1944

This period of continuity is characterised by the emergence of professional industry bodies which would push for a national water policy. The disruption of two world

wars, political indifference and economic crisis would mitigate against any coherent national policy. However, the number of water supply undertakings was halved between 1910 and 1936.

By the end of the nineteenth century the business of providing fresh water was no longer considered a boon but a prime necessity and a sanitary science. Progress was now engineering led but still required public or private sector funding. The significance of the formation of the British Association of Water Works Engineers and the Association of Sewage managers was that water industry policy at the beginning of the twentieth century, would be drafted with the advice of professional bodies which understood the increasingly complicated technical issues.

Between 1900 and 1910 three Royal Commissions considered and reported on the matter of sewage disposal, along with associated problems. All their recommendations pointed to the need for a central authority to control Britain's rivers for water conservancy purposes, as had been suggested 40 years previously. All of them were ignored. The Joint Select Committee who considered Lord Desboroughs' Water Supplies' Protection Bill in 1910, reported the need to establish local boards for water supply under a central authority. Parliament was dissolved before the Bill could be introduced. Before dissolution, Parliament called for a return from every water undertaking in England and Wales. This survey showed 2,160 water suppliers, comprised of Local Authorities, Joint Water Boards, statutory and private suppliers (Hall, 1989). Three quarters of England and Wales had piped water supply, of which two thirds were provided by municipal

authorities. The sheer number and variety of undertakings worked against the ability to exert influence on Government policy. This state of affairs prompted the formation in 1911 of the Municipal Waterworks Association (Barty-King, 1992).

With the outbreak of war in 1914, all schemes for new water supply legislation were halted. The Water Power Resources Committee, appointed as soon as war ended, recommended setting up a Water Commission, responsible to the newly instituted Minister of Health, to consider how best to conserve the nation's water supply. This constituted an advisory committee of engineers who were members of the British Waterworks Association, the Water Companies Association and the Institute of Water Engineers. From 1922 this body (CAWC) became the driving force behind the formulation, in the face of political indifference, of a national water policy, until suspended in 1931 at the time of the economic crisis.

The issue of water scarcity was still a strong one in the question over who should determine priority over the water supply. In 1934 the three driving bodies of the industry felt Parliament should move further towards a national policy and convened a Joint Conference on National Water Policy. Their report eventually resulted in the resurrection, in 1936, of the CAWC by the government, under the Chairmanship of Field Marshal Lord Milne. The aim was to help the government reach decisions which were seen to be fair. The Public Health Act of 1936 enabled the Minister to constitute a Joint Board to control the water supply of a district. Milne's committee advised that the powers should be extended to enable the minister to authorise the

amalgamation and acquisition (following a public enquiry) of water undertakings, whether local authority or private.

In 1936 there were 1,000 water undertakings in England and Wales, including 50 county councils, 150 borough councils, 300 urban district councils, 300 rural district councils, 33 joint water boards and 173 companies with statutory powers. A population of 27 million was supplied by LAs and Boards and 6 million by private water companies (Barty-King, 1992).

Preparatory studies leading to the 1945 and 1948 Acts were initiated and conducted during the height of the military engagements of WWII. These studies revealed several major concerns:

1. Adequacy of water supply, particularly in industrialised urban areas, was being threatened.
2. The large number of local authorities, each responsible for providing its own water supply and wastewater collection, was inadequate in addressing the problems that often required joint action.
3. Government exerted little influence on the passage or implementation of local acts for water management.
4. A confusion of authorities, responsibilities and controls over the water in the river and the river itself prevailed.
5. No national strategy for water management existed and the necessary data upon which such a strategy might be based were not available (Okun, 1977). In terms of the national consciousness, attention to water supply at that time may have been heightened because the war, and particularly the bombings, may have accentuated

the need for more adequate water supplies for fire-fighting. But when peace came the lack of labour and materials delayed any implementation of the scheme.

4.5 Reorientation: A National Water Policy 1943-48

Unheralded at the time, the Water Act 1945 was the essential first step leading to the regionalisation of all water management in England and Wales, with the Rivers Board Act 1948 being the second (Okun, 1977). Three elements of the 1945 Water Act were most significant:

1. A single Minister, the Minister of Health was charged with the responsibility: *to promote the conservation and proper use of water resources and the provision of water supplies in England and Wales and to secure the effective execution by water undertakers, under his control and direction* of a national policy relating to water.
2. The Central Advisory Water Committee was created to advise the Government in matters related to water.
3. The Minister was authorised to order, without an application of any of the local authorities concerned, the constitution of a united district of all or parts of LAs as joint water boards for the purpose of providing water supply for areas larger than that of any single LA. The Act empowered the Minister where it appears:...*expedient for the purpose of securing a more efficient supply of water to...by order provide compulsorily for any of these matters* (Okun, 1967:153-4).

The Water Act of 1945 made possible the grouping of smaller water undertakings into Joint Water Boards, like Thames Water Board which was the biggest, under the political control of the Minister of Housing and Local Government. This Act replaced the 1847 Waterworks Clauses Act and laid the foundations of a new phase in the history of water supply, the keynote of which was planning and coordination. It put the government's national water policy on the statute books. The formation of the water boards took time, however, and continued well into the 1950s.

The government of the immediate post-war period took the advice of the CAWC and passed the River Boards Act of 1948 to administer the River Pollution Prevention Acts of 1876 and 1893. It also assumed responsibility for controlling abstractions from underground sources. The legislators allowed themselves to be guided by the engineers. To promote the advancement of technology and the administration of knowledge as applied to the water industry, a number of supervisors, foremen and inspectors formed the Association of Water Officers in 1945.

4.6 Continuity: Rationalisation 1949-1971

There was significant growth in all parts of the public sector after 1945. The Labour government, elected on a programme of economic and social reform, was committed to nationalising the major basic industries, to economic and physical planning and to establishing a full programme of social welfare (Farnham and Horton, 1993). Local government grew at an even faster rate than that of central government, as it was the key provider of the new and expanded services in housing, education and personal social services. It was also given responsibility for environmental, physical and infrastructural development. It employed over one million people by the late 1940s and over three million by 1979. Alongside the increase in public employment went a corresponding increase in GGE. From 1901-13 it was approximately 10% of GDP, from 1919-38 around 13%; and it rose to an average of 20% between 1947 and 1970.

The 1945 Act led to extensive regrouping or regionalisation of water supply undertakings. Originally, the water undertakings were expected to initiate the regrouping which was implemented very gradually by persuasion rather than fiat. Following the 1950 election, the Labour government did not enact legislation

compelling regrouping but, in 1956, because of resistance and its slow pace, the Ministry of Housing and Local Government, along with leaders of the water supply units (mostly in the British Waterworks Association) embarked upon an aggressive and pragmatic program to accelerate the process. Only about 10 per cent of the regrouping orders were made compulsorily and from an original 1186 water undertakings in 1945 and 1030 in 1956, the number dropped precipitously to 260 in 1968 (Okun, 1977).

Initially this regrouping had been bitterly fought throughout the water supply industry. Organisations with long histories of service and positions of authority within these organisations were to disappear. Local identification with local water supply undertakings and the people operating them were to be replaced by the anonymity of larger and presumably less responsive agencies.

Had there been more pressure for regrouping, the number of water supply undertakings at the time of the 1974 reorganisation might have been halved. The 1951 Act, in Section 9, authorised the regrouping of sewerage functions. However, except for a total of only 27 joint boards, sewerage and sewage disposal remained a local authority function, with almost 1400 separate undertakings providing service until the 1974 reorganisation (Okun, 1977).

4.6.1 1963 Water Resources Act

The post-war expansion of the population with higher living standards, the final connection of rural areas to mains suppliers and the great increase in industrial use began to make serious demands on water resources (Collinge, 1967; Woodward, 1967; Hall, 1989). Prodded by a most serious drought in the summer of 1959 that caused severe restrictions on the use of water and threatened many industrial operations, the CAWC came out with its Proudman Committee Report in 1962 that drew attention to the need for national policy planning for water. The existence of a

large number of authorities, each acting in an isolated fashion without regard to the situation nearby or nationally, was deplored: what was required was the creation of comprehensive new bodies, ie river authorities, to manage the water resources of river basins as a whole. A government White Paper that same year (1962) accepted most of these recommendations, excepting only the proposal for a central executive body, substituting an advisory body with a mandate only for water conservation planning but without the power to execute projects (Okun, 1977; Woodward, 1967).

The result was 29 new major authorities based on the old river boards, while suppliers and local authorities remained independent (Hall, 1989). The most innovative aspect of the Water Resources Act was the authority for the RAs to initiate charges for abstractions: *The charges...shall be levied at such rates...as appear to the River Authority to be requisite for balancing their water resources account* (Okun, 1977).

Regrets were widely expressed that the government did not propose to centralise power, recast the water undertakings, or combine water conservation and supply and distribution. Denis Howell (later Minister of State for the Environment in a Labour government) pointed out that it is administratively wasteful to have separate water supply and wastewater disposal organisations, an idea that was somewhat ahead of its time.

One of the most significant clauses of the 1963 act created the Water Resources Board to oversee the authorities and to work out government policy for water resources. It was to investigate and plan on a national scale the country's future requirements. In the words of Lord Hastings, introducing the bill in the House of Lords: *...surely this is a Board of real strength, and one with the duty of taking the initiative* (Okun, 1977:22). However, the advisory status gave the Board no powers to act and RAs seldom had the finances to follow through recommendations.

Opposition to proposals for the WRB was vehement, with claims that it would lack punch and drive and could not act as a substitute for a central water authority. A change of government in 1970 and the creation of the DoE with its own Water Directorate brought about the demise of the Board when the Water Act of 1973 was introduced (Woodward, 1967).

The water resources issue continued to dominate the industry as one of concern after the 1963 Act: *Present estimates are that, in broad terms, demand will double by the end of the century* (Collinge, 1967:5), leading, after much research and discussion to the reorganisation of the industry in 1974 based on the concept of integrated river basin management.

4.7 Recreation: Reorganisation 1968-73

The reform was largely the initiative of the Ministry of Housing and Local Government (later DoE). Its reasons were various but included a desire to avoid having to adjudicate in local disputes in the industry. The Ministry also felt that water tended to be neglected in local authorities and so favoured the setting up of a self-financing water industry where management would have a higher priority and status. This solution also reflects the fashion of the time: *the managerial revolution* (Richardson & Jordan, 1979:46).

The real (as opposed to political) debate ran on across the change in governments in 1970. The impetus to reform was organisational, following the 1973 Act, functions were administered within large, managerially oriented, integrated organisations instead of small-scale, uncoordinated units. This change was as radical a policy switch as can be cited in post-war Britain (Richardson & Jordan, 1979).

4.7.1 integrated river basin management

In appreciation of the need for study of the existing situation in the water industry, the government established the Working Party on Sewage Disposal in February 1969, chaired by Lena M Jeger, MP and in Sept 1969 reactivated the CAWC authorised by the Water Act 1945. Meanwhile, in March 1969, a joint symposium was held in London on *Future Organisation of River, Sewage and Water Authorities* under sponsorship of the Institute of Water Engineers, the Institute of Public Health Engineers and the Institute of Water Pollution Control.

CH Spens, chairman of the joint symposium and for almost ten years previously chief engineer of the Ministry of Housing and Local Government, proposed the novel idea of multi-purpose Regional Water Authorities for England and Wales independent of local government (Barty-King, 1992:161). He concluded that: *...change was necessary and change was bound to come.* The consensus was that despite its many positive features, in failing to define clearly the river authorities' responsibilities for developing water sources, the Water Resources Act 1963 undermined clearly designated responsibilities of the water undertakers as spelled out in the 1945 Act.

Most significantly, a changing concept was that the water industry no longer served solely a public health function; water was a commodity to be sold for public use. Therefore, water management on a regional basis might well be in the hands of small and efficient boards of directors with highly competent technical staffs rather than under the control of elected local authority representatives.

Spens concluded that only drastic reorganisation would suffice, with a small number of autonomous regional water authorities which would:

- control the whole of the hydrological cycle,
- be based on river catchments or groups of catchments,

- control river flows, both in quantity and quality,
- be responsible for conservation and development of resources,
- abstract water for public supply, treat and distribute it,
- collect wastewaters and conduct them to treatment works,
- construct and manage treatment works, accept the effluents back into the rivers

(Institute Public Health Engineers et al, 1969).

The CAWC's (1971) report *The Future Management of Water in England and Wales* (see Collinge, 1972:13), confirmed the view that the responsibility for water was fragmented among many separate bodies, with conflicts between them and inadequate machinery for resolving these conflicts. The main problems were: inflexibility in the use of resources (Department of the Environment, 1971b), division of responsibility between river authorities and water supply undertakings for development of new sources; promotion of large schemes; and inadequate levels of wastewater treatment. They concluded that reduction in the number of operating units and changing relationships amongst authorities were necessary to permit the formation and implementation of comprehensive water management plans.

The conclusion of the CAWC in their 1971 report was that the remedy lay in a much greater re-use of water and therefore much greater concern with the treatment given to water after use. That depended on the existence of a single comprehensive water management plan for every river basin (Nixon, 1972:1-6). The object of integrated river basin development has been defined as: *The orderly marshalling of water resources of river basins of multiple purposes to promote human welfare* (United Nations, 1970).

CAWC was not of one mind with regard to the implementation of reorganisation, with some favouring step-by-step change and others urging a more radical, one-time surgical operation (Nugent, 1971). The greatest criticism of the CAWC report was that it did not come to any hard decision as to the desirability of single-purpose vs

multipurpose authorities. It set out the advantages of each and left the government to choose (Banks, 1973).

The proceedings of the Symposium, published in 1969, and in the same year the Royal Commission on Local Government which recommended reorganising municipal bodies, the report of the Jeger Committee, published in 1970, and especially the report of the CAWC, issued in April 1971, all contributed significantly to the governments decision to move ahead. These documents helped shape the government's proposals for reorganisation which were published before the end of 1971.

4.7.2 the Local Government Act 1972

The presence of the then sitting Royal Commission on Local Government in England, if not its recommendations which were not yet available, hung heavy over discussions of water reorganisation. Fear was expressed that water reorganisation might need to be adapted to decisions made for local government rather than for local government to be molded to permit sound reorganisation of the water services. Senior (1974:557-9) pointed out: *it was evidently characteristic of the department in charge of housing and planning...that what its left hand was up to remained unknown to its right hand, or even to its erstwhile head.*

The Local Government Act 1972, calling for the reorganisation of local authorities on 1 April 1974, with health service reorganisation taking place on the same date, gave urgency to consideration of water reorganisation. If water reorganisation were to follow long after 1 April 1974, then local government would have to suffer two successive and equally traumatic reorganisations over a very short period. Thus the Secretary of State for the Environment, on 2 December 1971, announced to the House of Commons the government's intention of reorganising the water services on the basis of ten all-purpose regional water authorities and subject to approval by

parliament, this would take effect on 1 April 1974, the date of local government reorganisation.

4.7.3 government proposals

The government believed the time had come to bring together all aspects of the hydrological cycle under all-purpose management structures (Barty-King, 1992:166). While, in the six years of their existence, the river authorities had made a useful start, problems had arisen from the separate responsibility for water supply, river management, water conservation, pollution control, sewerage and wastewater disposal. The government concluded, and the Royal Commission on Environment Pollution concurred, that water authorities concerned with all relevant aspects of water management should replace the many and diverse public authorities in the field.

The Regional WAs would take over the water conservation, water quality control, navigation and recreation functions of the river authorities as well as those of the British Waterways Board for canals and navigation. They would replace the existing joint water boards and joint sewerage boards but the statutory (privately owned) water companies would continue, provided a satisfactory arrangement could be made for them to serve as agents of the WAs.

Under their powers, the WAs were able to focus on the various roles of a river as a source of water, as an amenity and as a recipient of discharges from sewage works and factories. Each needed to balance these requirements in the best overall interest, in the knowledge that river water quality, standards of sewage treatment and potential for water resource use were linked.

Local authorities would continue to be responsible for local sewerage, although the WAs would control the discharge of industrial effluents to these sewers. Local

authorities would also retain the responsibility for independent testing of public water supplies to assure that water delivered by the WAs would be wholesome.

Banks, representing the views of many professional engineers who had favoured the adoption of single-purpose authorities, was far more accepting of the projected reorganisation following the Government's proposals: *As a long term solution to the water problem, the proposals have much to commend them. Sewage treatment and pollution control are closely related to water supply, and all three can affect the provision of recreational facilities and amenities, the importance of which is emphasised again and again in the memorandum* (1971: 2361).

4.7.4 constitution of the water authorities

The government agreed with the CWAC that WA areas should be hydrological and that their boundaries would therefore not coincide with those of local government. Close cooperation between the WAs and local authorities at all levels would be necessary if the reorganisations of local government and water management were to succeed. Five factors were to contribute to this close cooperation:

1. the appointment of a majority of members on each WA from LAs,
2. the LAs' service as agents of the WAs for discharging the sewerage function,
3. the relationship of planning in the WAs to the system of land use planning,
4. cooperation in the provision of goods and services by one authority to another,
5. arrangements for emergencies and disasters.

Within the area of each WA, one or more consumer councils would reflect the various interests involved in the WAs, such as local authorities, industry, farming, amenities and recreation. The WAs would report to these councils and the councils, if dissatisfied, would have direct access to the Ministers. A water council was proposed, consisting of a chairman appointed by the Ministers, the chairmen of the WAs, and appointed members having specialised knowledge of industry,

agriculture, amenity, recreation and other matters of concern to the WAs. This national body would promote efficiency in the industry by comparing practices and performances of the WAs and help the WAs to profit from one another's experiences. Also, the statutory (private) water companies would be retained, as these companies could continue to play a valuable role as agents of the WAs.

The Ogden committee was charged in 1972 to consider possible forms of management structure with the view to producing guidance on this matter for the WAs. Their report *The New Water Industry Management and Structure* (Department of the Environment, 1973) was issued one year later. The committee emphasised that a multidivisional multidisciplinary approach to management was essential and that a start should be made immediately at HQ. While the overall planning process must be determined at regional level, the committee recommended that responsibility for the different water functions should be delegated to divisions to the fullest possible extent, consistent with efficiency and economy, in part on the basis that such decentralisation would encourage staff involvement. With regard to the operation of the WAs themselves, the committee hoped the members of WAs would adopt a corporate approach and not pursue local constituency or special interests. A committee structure was suggested (UBS Phillips & Drew, 1989:23).

The proposals for reorganisation were met with a wide disparity of responses, from enthusiasm, congratulating the government for being progressive, farsighted and bold; to claims that the reorganisation was not sufficiently radical. Many others claimed that it went far beyond what was necessary to deal with the existing problems. For instance, a strong plea was made for separate directorates for water supply, sewage disposal and rivers. As Finch elaborated: *The sewage function should not be carried out by one officer responsible to another officer, whose primary discipline may be one of the other two functions; water supply or the river. No man can do justice to all three functions; there will inevitably be a conflict of*

loyalties and there is plenty of precedent in local government on this important subject (1974:5-13). Banks criticised the proposals: ...*in lacking the checks and balances of independent authorities; in being monopolies with obligations to show returns on capital employed (as do other state corporations) and whose spending will be influenced primarily by the needs of the water cycle rather than the consumer*...(1972:1929).

The Water Bill passed on its second reading on a party line vote, 220-210. This narrow majority of only 10 presaged a somewhat more turbulent passage through the committee stage than expected. Parliament met for the fourth time on 17th July 1973 to consider amendments to the Bill made in the Lords, none of which was controversial. As originally drafted, the Bill appeared to give WAs wide discretion in deciding whether to comply with directions from the Secretary of State. On 18th July 1973, the Bill received Royal Assent.

4.7.5 preparation phase

Even before the Water Bill had received Royal Assent, preparation for implementation of the Act had begun. The attitude of most in the water industry was that the reorganisation had to be made to work, particularly by those at the executive level, who were involved in planning at an early stage. It was the acceptance of the reorganisation on the part of those who had fought it bitterly, such as Peter Black, chairman of the Thames Water Authority and Alex Morrison, its chief executive, who, when reorganisation seemed inevitable, and they had been selected for leading roles in it, were determined to make the Thames Water Authority and the entire reorganisation successful (Okun, 1977:104).

Anticipating passage of the Bill, the government announced on 10 July 1973 that, if parliament were to pass the Water Bill, certain designated individuals would be appointed as chairmen of the WAs. Almost all had considerable experience in some

phase of the water industry. Eight of the 11 chairmen had been primarily involved in private enterprise, business, industry or farming. Among the members appointed by the government, about 40 percent represented private industry with 60 percent representing some element of public life, including the nationalised industries, agricultural and environmental groups and local authorities.

The WAs were to be created in `shadow' form as soon as possible so that they might begin to appoint staff, organise into committees, make budgets and in all ways be so organised as to be `off and running' on 1 April 1974. The ten WAs were established by statutory orders during the period 26 July to 14 August, while the NWC was brought into existence on 23 August. The first meetings of all the WAs were held in August 1973.

Most of the activity in preparing for reorganisation day, 1 April 1974, and for the period beyond was concentrated within the WAs. In the very abbreviated time interval between their formation and the date that they would assume full responsibility for hundreds of millions of pounds' worth of facilities, the WAs were required to organise themselves, employ officers staff and workers, establish their HQ and those of their divisions, prepare budgets and assess charges and collect moneys. The WAs were to be a new type of body. As Okun succinctly relates: *The opportunity to create de novo a group of massive organisations seldom appears. The challenge is particularly great when these organisations are to employ some 65,000 individuals, spend hundreds of millions of pounds annually, and affect the lives of every individual in the nation in some way* (1977:114).

The reorganisation was being launched at a most difficult time from an economic standpoint, with Britain undergoing rampant inflation and with considerable pressure from unions for substantial increases in salaries and wages. A few weeks before vesting day a national election was called in February 1974, and parliament

disbanded. The Conservative government lost the general election and a new Labour government took office at the time that the WAs assumed their responsibilities.

Labour Ministers were not greatly opposed to the large public sector bodies created out of reorganisation. These large bodies were established to tackle what were perceived as big challenges. A local authority recruit to the new Thames WA recalls the ethos of the public sector: *Don't forget this was the era of development and change in the early seventies. Where big public authorities, technocrats were going to be the way of doing it. Local authorities had become bigger, health authorities had been created, it was very much a flavour of big technocratic organisations that could attack these large problems. We could get our professional and our economic base right and we could go for these sort of things.*

An editorial commemoration of 1 April 1974 was arranged by the *Surveyor* (29/3) which had called for contributions to an issue concentrating on reorganisation and the day on which it was to occur, All Fools' Day. The responses were characterised as generally gloomy and the published contributions had: *the air of the condemned whistling on the way to the guillotine.* As Okun concluded: *Whether this was the greatest reorganisation ever `perpetrated', a characterisation of the reorganisation rendered by the chairman of the NWC, Lord Nugent, will be left for history to judge* (1977:136).

The 1973 Water Act was the culmination of a process of industry concentration and a move towards integrated river basin management and regionally based decision

making, having its roots in the earlier part of the 20th century. Substantial portions of the 1945 Water Act governing water supply were restated by the 1973 Act. Likewise substantial portions of previous Public Health Acts governing the provision of sewerage services were also restated (UBS Phillips & Drew, 1989). In this way, the 1973 Act took management arising from the 1945 Water Act to its logical conclusion, integrating the remaining 157 water and 1,393 sewage undertakings, together with 29 River Boards, into 10 regional water authorities.

4.8 Continuity: Integration 1974-79

A radical transformation of perhaps the most vital public service of all has taken place quickly and efficiently without any faltering in the standard of that service (NWC, 1975a). So stated Lord Nugent in the first annual report of the National Water Council. Nevertheless, many problems did surface. Some were attributable to the nature of the reorganisation itself, such as accountability to the public and the relationships between the WAs and the LAs whose residents they served. Other problems could be traced to external forces such as the deterioration of the national economy. Ultimately, these problems in conjunction with national political events would undermine the potential benefits of industry reorganisation and invite further central government control, leading to the next period of change.

Such massive restructuring was bound to create problems, some anticipated and others unexpected. Uncommonly serious economic perturbations buffeted Britain during initial implementation of the reorganisation. Nature also conspired against the new WAs in their third summer with the worst drought in recorded history. Many contended that only the reorganisation enabled England and Wales to ride out these difficulties by permitting a more efficient use of both financial and water resources than would have been possible under the old fragmented system of control. Some local water supply projects could be put off because exploitation of

resources on a regional basis made them redundant. Limited financial resources and the absence of outside subsidy forced the WAs to explore ways of establishing priorities so as to derive the greatest benefit from each investment of scarce funds.

The change period was marked by great enthusiasm and commitment to the task ahead. As one operations controller of sewage treatment recalled of the change from local government and severe financial restraints:... *everybody who had been really constrained...saw this formation of the water authorities as a glorious opportunity to do all these things for the benefit of the business that they had never been able to do before. So we all worked extremely hard to put it together and great changes great improvements were made in that first year.*

4.8.1 organisation of WAs

Despite the guidelines from the government the individual WAs did exhibit, perhaps more than might have been anticipated, considerable independence in how they organised themselves (Thorpe, 1975:22). Very quickly, each WA displayed a character and style of operation uniquely its own. The WAs varied extensively in area and population served, in water resources availability, and in the nature of the problems they faced (Okun, 1977:137).

Within three months of the creation of the shadow WAs, the *New Civil Engineer* (1974) headlined an editorial: *RWAs go their different ways* (see 6.3.2). On reorganisation day only 152, instead of 260, divisions were created, representing all combinations of functions. The *Surveyor* (1974a:1/3) concluded from such a diverse set of structures: *The drastic pruning of the number of authorities responsible for water supply and sewage disposal is welcomed, everybody expecting to see immediate benefits from the reduction of duplication and effort and improved*

coordination of the two ends of the cycle. Shared services are generally looked forward to, while better resource planning and spending of capital in these penny pinching times is seen as a major advantage.

However, the concept of corporate management recommended by Ogden began to be criticised (*Surveyor*, 1974c: 27/9). Hender (Chief Executive of West Midlands CC) decried the emphasis on `labelled boxes', indicating that far more attention should have been given to the process of management rather than the structure, and he faulted the Ogden Committee report for this lack. Sir William Dugdale, chairman of STWA, summarised the general approach to the management structure by calling corporate management: ...*a weapon against departmentalisation* and not an aim in itself. *The corporate management team was just like a board of members - verbose, discursive and in most cases fairly irrelevant - but it had the great advantage of letting everyone know everybody else's business* (*Surveyor*, 1974c: 11-15).

4.8.2 the national agencies

The Water Act did not change the relationship between the government and those responsible for providing water services. The Secretary of State for the Environment and for Wales and the Minister for Agriculture, Fisheries and Food continued to have the duty to promote jointly a national policy for water in England and Wales. Even initially, the newly created WAs were to have much greater freedom of action and relief from detailed control as contrasted with the predecessor authorities. For meeting the purposes of national policy direction several new national agencies were created: the National Water Council and the Water Space Amenity Commission were statutory bodies established under the Water Act 1973;

the Water Research Centre was established as a company and the Central Water Planning Unit and the Water Data Unit were part of the DoE (Okun, 1977:177).

The DoE modified its procedures following reorganisation, abolishing a requirement that it give consent to applications for loans. WAs were now free to borrow within an overall capital ceiling, with the DoE determining these ceilings (subject to Treasury control). Ceilings were based upon a compromise between the requirements of the WAs and the national needs for capital in other fields. The other major responsibility of the DoE was the surveillance of the corporate planning responsibilities of the WAs, including long term plans and estimates for future demands for water over a 20 year period.

The NWC was not like any other central water organisation previously existent in Britain or elsewhere. It was seen at its creation as facing in two directions, to government and to WAs, with little to offer but advice and with no obligation on the part of either to accept this advice. The most important statutory obligation of the NWC was for the training and education of the 65,000 employees in the industry. The current Deputy Director of the WSA who joined the NWC in 1977 recalls the role of the NWC:...*it had an important role in finding a place where the representatives of the WAs could come and talk...the first thing they needed to do was to establish national standards*...An alternative view is provided by a former assistant director of operations in Severn Trent who saw the 70s as a period renowned for authority get togethers at the NWC: *Ten regional Water Authorities all trying to find out what the others were doing...it started off very innocently...and there were useful monthly meetings. But then they spawned lots of subsidiary committees. It was labour intensive... almost an industry in its own right.*

There was a general perception of a fragmentation of responsibility at the center amongst the DoE, the NWC, the WSAC, the WRC, the CWPU and the WDU (Okun, 1977). It was felt that this situation usurped the important national role of the NWC, as Thorpe (1975:22) wrote: *It does not augur well for the future. I believe that the NWC has a vital role to play in seeking to provide a national identity and sense of purpose for the water industry and that it is not helped in so doing by a proliferation of bodies each meeting one or more aspects of our national needs.*

4.8.3 finance

The government soon faced pressing problems in terms of national economic policy, which made it convenient to have a strong central grip on WAs. The economic crisis in the mid-1970s coincided with the Labour Party assuming office. Its response was to cut back planned expenditure and to break in part with the post-war consensus. As Farnham and Horton (1993) argue, it was the slowing down of economic growth in the 1970s which was eventually to undermine the Keynesian-Beveridge edifice. A turning point was the onset of the long world recession triggered by the oil shock. This would eventually leave the way open for new political and economic ideas to take their place in 1979.

The country's economic difficulties were reflected in the financial problems experienced by the water industry. In the first instance, going into business with totally inadequate working capital and very sketchy information about the financial situation inherited from some predecessors. The National Loans Fund provided capital at 17.5% which given the total expenditure in the second year of operation made in TWAs case:...*something of a financial nightmare which must be sorted out* (Morrison, 1975).

Related to this was the investment ceiling set by government via the Public Expenditure Survey. This was compounded by inflation which raised interest rates. This on the inherited loans of its predecessors was likely to increase charges. An uncomfortable promise at a time when the new WAs were trying to gain public favour. This was not helped by the condition of inherited infrastructure, the maintenance and replacement of which would only serve to exacerbate the situation. The question of charging also proved difficult as the Water Act had required the industry to establish an equitable system for its services. These charges had been historically "disguised" in local authority rate demands, also the task of billing millions of customers appeared daunting.

Water service financing was to be shaped by the application of two principles: that the services must pay for themselves, and that a service should be offered only if its benefit exceeds its cost. The effects of this new approach are seen in the requirement that any subsidy `for the public good' be rendered explicit, so that all might know its cost: *Against such a background, the new economic philosophy of the reorganization is nothing less than revolutionary* (Okun, 1977:228).

4.8.4 charging

Few of those involved realised just how long and painful the transition, still incomplete, from subsidy to solvency and from expediency to optimality would be. The combined economic and industry inheritance problems, resulted in large charge increases not only in the first jolt of 1 April 1974 but also in the presentation of the subsequent annual budgets of the WAs. The inaugural charges of the WAs

represented a 41 percent increase over the charges of the prior authorities, as compared with a retail price increase of about 20 percent over the same one-year period (NWC, 1975b).

The principles enunciated by the government and incorporated in the Act explicitly prohibit subsidies and implicitly prohibited equalisation, or the establishment of uniform charges within a region. The debts inherited by the WAs were immediately incorporated into customer charges, with no assistance from the national exchequer, as the rate support grants were not available to the WAs.

The issue of equalisation was to be no more marked than in the furore which erupted over charging in Wales. The severe financial strains of the water reorganisation in Wales actually threatened the reorganisation. Throughout the parliamentary debates on the Water Bill, repeated references were made to the special interests of Wales in the water reorganisation. This was a serious problem because Wales was amongst the most impoverished areas of the UK, with high rates of unemployment and little modern industry and hence had been heavily subsidised. The bitter feelings engendered by the increased charges were exacerbated by the growth of Welsh nationalism and the election of Welsh Nationalists to parliament, whose influence far exceeded their numbers because of their strategic situation in alliance with Scottish Nationalists. Altogether the nationalists constituted a balance of power as between the Labour and Conservative Parties in 1974.

Finally, the Secretary of State for Wales created a committee of enquiry chaired by Sir Goronwy Daniel. The Daniel Committee constituted the first formal review of reorganisation and was a precursor to the government's own full-scale review. The most significant recommendation of the Daniel Committee was that early action should be taken to reduce the difference in average water charges between the WNWDA and the other WAs by introducing legislation to give a Welsh Assembly executive responsibility for water supplies in and from Wales.

The Labour Government were unable to uphold the Conservative Government's promised relief to householders and the average national increase was nearly 30 percent. The ratepayer's revolt was only subdued by the introduction of a new government rate relief formula, which would subsidise any increases over 20 percent in the sum of both charges and rates as a special measure for 1974-75 only. The storm eventually abated, but not before the officers of the WAs had been effectively diverted from implementing reorganisation by being forced to spend many evenings on `whistle-stop' tours attending protest meetings. Wills, Chairman of Wessex WA: *It is our misfortune that so great is the current, and unhappily, expected rate of inflation, that no economies of scale - and there have been some that we can show - have been able to break through the great upward march of charges based upon the rate of inflation that we are currently suffering...*(Wills, 1975: 20). He advocated moving to direct billing as soon as possible.

Thorpe wrote of the anomalous situation of the authorities:...*the criticism of our charges is often supplemented by a reference to the consumers' belief that the regional water authorities and their members are not accountable for their activities and in particular for the level of their spending...Our constitution therefore places*

regional WAs between the local authority situation on the one hand and the nationalised industry situation on the other (1975:24).

Public resistance to the new charges, much of which the public had already been unwittingly paying, focused on charges levied against properties not connected to sewerage systems which culminated in the highly publicised Daymond case in 1975. In the transitional period following the reorganisation little change was effected in the system of charging, and the general services charge, which included as a major item the sewerage and sewage disposal service, was automatically continued:...*this charge stood out in isolation, literally inviting protest from persons not on main drainage who realised for the first time that they were paying for a service which they did not receive* (Roberts, 1975:16-33).

In May 1975 the courts held that even 50 percent charges against unconnected properties were beyond the legal powers of the WAs. The SWWA's appeal to the House of Lords was dismissed, thereby forcing the WAs to refund some £60 million collected from some 900,000 unconnected property owners in England and Wales over the first two years. The NWC estimated that the average charges to customers would have to be increased by about 21 percent in the third year of reorganisation, 1976-77, to cover the loss in revenue (*Surveyor*, 1975).

4.8.5 capital investment

The greatest initial changes in the financing of water services were in capital finance, as the WAs were more akin to nationalised industries than to the LAs from whom they inherited their services. While the WAs had the power to allocate their capital resources amongst all the services for which they were responsible, switching their financial resources about as appropriate, the government placed a capital ceiling each year on each WA similar to their practice with all nationalised industries (UBS Phillips & Drew, 1989:35).

This control by the government of the capital expenditures of the water authorities was based, as it was for the other nationalised industries, on the need for government to manage its economy in the face of serious financial strictures. In order to help the government fix these limits, the WAs were required to identify their objectives and prepare long term investment plans. Within this limitation, the WAs were not subject to detailed interference on projects but were able to borrow to the extent necessary to cover their programmes after the WA investment programme had been approved by the government.

Two other conditions brought the capital programme more into line with the nationalised industries than had been the case of the LAs. Firstly, borrowing for capital purposes would have to be from the National Loans Fund, the European Investment Bank and other foreign sources subject to Treasury and Bank of England approval. Temporary borrowing from other sources would be permitted only for a short term working capital. Secondly, the WAs were set a target rate of return on capital investment.

The financial situation that the WAs inherited precluded beginning large scale programmes of financing capital investments from revenues, as the charges were already found to be much higher than had been anticipated. The government, which had originally suggested that a ten percent reserve fund be developed over a three year period, felt obliged in the second year of the reorganisation to limit the amounts to be placed in the reserve to two percent of gross revenue, which was to include amounts to be used for capital reserve, signifying that initial capital expenditures would have to be met almost entirely from borrowing.

At the National Water Conference in 1975 many speakers complained about the crippling interest rates from borrowing (Eric Gilliland, director of finance Thames WA) and the effects of underinvestment in the industry. For instance, by impeding

the realisation of economies of scale, Brown, Chairman of Yorkshire WA (1975:6) forecast: *It is my impression that we have in front of us an as yet unidentifiable bill for 30 or more years of lack of maintenance planned to match the rate of decay.* While Shaw (1975) came to the same conclusion from the effects of the increase in charges that arose from undertaking capital expenditure. Both Shaw (1975:17) and Thorpe (1975:24) concluded the industry should be allowed to go on the open market and compete for the funds to take on the more intensive and high price capital projects so urgently needed.

Nevertheless, the precarious economic situation presented WAs with an opportunity to demonstrate the economic efficiency of the new organisational structure by utilising existing resources, facilities and personnel in an optimal manner. However, the low level of spending through the 1970s and the early 1980s undoubtedly led to a deterioration in asset condition and associated levels of service (UBS Phillips & Drew, 1989).

4.8.6 relationships with LAs

The sharp increases in water charges, regardless of their justification, created strong resentment because of the seeming immunity of the WAs to complaints from local authorities and the public. The constitution of the WAs, with a majority of local authority members, was intended to demonstrate accountability. Resting somewhat between the local authority with elected members, and a nationalised industry, with all appointed members, the WAs were in an ambivalent position in responding to charges of indifference to their customers. Faced with the responsibility for continuing existing water services, the local authority members of the WAs found themselves assuming positions little different from those of the appointed members.

The agency agreements for the district councils to manage sewerage on behalf of the WAs also created problems (Wills, 1975). The emotional context in which the

relationships between the district councils and the WAs existed was revealed in the annual conference of the District Council's Technical Association, where it was suggested that:*...both sides might get on just as well, and probably understand each other better, if they passed their messages in bottles thrown into the nearest clean or dirty waterway* (Randall, 1975:853).

4.8.7 the poacher-gamekeeper issue

The conflict of interest of the WAs in being both polluter and regulator created remarkably little controversy within the industry initially (Carney, 1991a). In practice, any conflict was overcome by ensuring that the regional authorities were not allowed to consent their own discharges - they were obliged to seek consents from the Secretary of State. There were also internal processes of discussion and consultation, involvement of local authority representatives and the publication of plans and results. However, this "poacher and gamekeeper" role remained for some a source of suspicion and weakness, in particular because of the delay in implementing the Control of Pollution Act 1974 (see 5.7.7). In light of the severe limitations placed on capital investments, the NWC and the WAs asked the government not to implement, for a period of three years, the provisions of the COPA, which would make WAs liable to prosecution with respect to discharges from their facilities that infringed consent conditions originally imposed by the predecessor river authorities.

More serious was the practical problem of improving the quality of drinking water and waste-water effluents during a period when government was trying very hard to contain public expenditure. For much of the 1970s capital investment in water was being reduced (Fig 4.1), when it should have been increasing (Carney, 1991b).

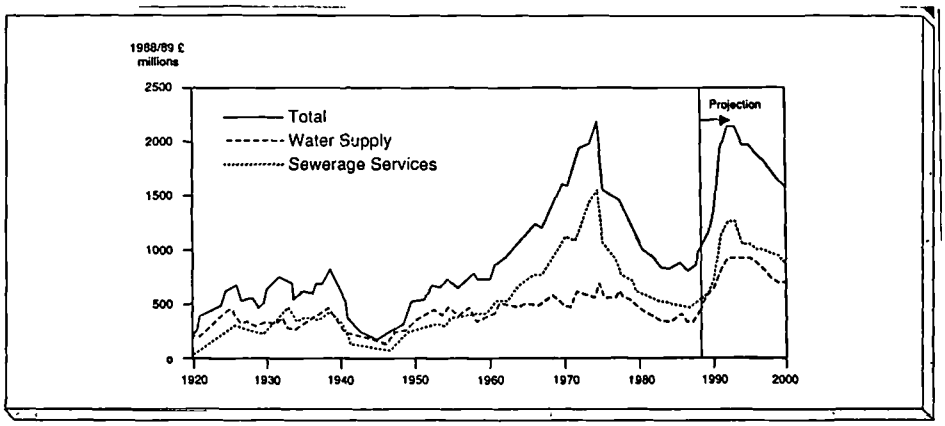


Fig 4.1 Capital Expenditure in the Water Industry 1920-2000

Source: UBS Phillips & Drew (1989)

The Director of Scientific Services of TWA voiced an:...*increasing feeling of unease regarding our national water pollution control position. Two years ago I was convinced that the attention of the then Government to achieve a marked clean up of rivers by the 1980s showed a promise of a bright future for the new water industry...Now this bright prospect has evaporated substantially* (Fish, 1975a: 7).

4.8.8 drought crisis

Paradoxically, the one disaster of the first years also found in the Authorities' favour. This was the drought of 1976/77 which was the worst since records began. The sixteen months from May 1975 to August 1976 were the driest in England and Wales since meteorological data collection was initiated in 1727, with estimates indicating the drought in some areas to have been the most severe in the millennium. This not only tested the new Authorities capabilities to the limit but also demonstrated the robust nature of integrated river basin management. The WAs were able to develop all the available resources to their areas without regard to local political boundaries and to reallocate and redistribute these resources for their fullest use.

All in all, the drought did call attention of the populace to the water reorganisation and the role of the new water authorities at a time when they needed public

understanding. At least the public were aware that the system worked and could cope in adversity. Carney (1991b) noted one additional consequence of the drought: *The cut in investment in sewage treatment was even more savage than that of capital expenditure because investment priority had to be given to water supply following the drought and to drinking water quality.*

4.8.9 the government's (1976) review

The future of the industry was clouded by the government's decision to initiate a review of the reorganisation after less than 18 months of operation, which undoubtedly created strain and uncertainties amongst personnel in the water industry, as the potential for further reorganisation could not be far from the minds of those most involved.

The main thrust of the 'green-edged' white paper was for creation of a stronger agency at the centre, a National Water Authority, as had been fervently called for by the Labour opposition during the parliamentary debates, and for some measure of equalisation as a response to the Daniel Committee recommendations, as well as to integrate the privately owned water companies (that serve about 22 percent of the population) into the WAs with fair compensation (estimated at about 300 million) as soon as practicable. The government emphasised that the water industry as a whole should continue to be financially self-sufficient and should operate without subsidy. After examining various equalisation schemes, the government proposed to reduce the wide variations in average bills paid in the WAs by an interim device of pooling the historic (up to 31 March 1976) financing costs attributable to the provision of unmeasured (primarily residential) supplies.

In proposing only minor adjustments, the government demonstrated its support for the new organisation of water management. In 1977 the government issued its White Paper: *The Water Industry in England and Wales: The Next Steps.* In general

the proposals in the government's 1976 Review were affirmed with the exception that the take-over of the private water companies was to be deferred because such a proposal would not gain sufficient parliamentary support.

4.8.10 1976 moratorium

In 1976-7 as balance of payments difficulties grew acute and water resources had taken the strain of the drought well, capital spending in water services was a ready victim of a series of cuts. Additionally, the forecasted water shortages were proving incorrect. This possibly encouraged the restrictions on capital expenditure that were imposed on them in successive years. More importantly, as Kinnersley (1988) notes, the least strain was falling on what had already been the best organised function (clean water) when the Authorities took over in 1974. It would be the sewerage system and sewage works, previously neglected by LAs, that would feel the main brunt of the cutbacks in the late 70s and early 80s (UBS Phillips & Drew, 1989:21; Barty-King, 1992:172).

This worsening of the economic climate in Britain, necessitating the Labour government to call in the IMF, was to underline the fundamental problem bedeviling the industry. This lay in the first instance with the constitution of the WAs. These so called independent organisations, part LA via Board membership and part nationalised industry via links with the DoE and the Treasury, were in a cleft stick. On the one hand subject to the influence of individual LA policies such as housing development, affecting resource expenditure. On the other subject to a national expenditure policy which was to have the opposite effect on capital expenditure. As Morrison, Thames' chief executive wrote in a paper to the Institute of Municipal Engineers (1976:2): *In such a situation it may well become necessary for a WA to defer work in the current financial year because it would over-commit expenditure in subsequent years.*

Peter Hall, then accountant with the NWC training division, described the moratorium at the time as quite severe, with the consequence that the industry did not recover for a decade. Subsequently: *The incoming government saw the public expenditure of the water industry as helpfully low and came in on cash limits. And nothing improved.* The industry had a low priority on the government's agenda due to public and political perceptions at the time:*The provision of waste water and drinking water service wasn't bad...So it was very difficult to impress upon the government priorities in this area...and we presided over a slight deterioration in the quality of services offered. Mainly on waste water, sewage treatment.*

4.9 Reorientation: Nationalisation 1979-83

In the period up till 1979 local authorities in general continued to provide services on the basis of the `bureaucratic paternalism' (Hoggett and Hambleton, 1987) which characterised the post-war settlement, despite increasing signs of public disillusion with public services which appeared to be provided by insensitive, monolithic bureaucracies in conformity with rigid and apparently unnecessary rules (Crewe, 1982; Parkinson, 1987). The public disillusion with local authorities came to a head during the wave of public service strikes which occurred in late 1978 and early 1979 which became known as the `winter of discontent'. Criticisms of public services were increasingly heard and were a contributory factor in the election to office in 1979 of the Conservative Party under Thatcher (Elcock, 1993).

4.9.1 1979 election

After the 1979 election the Conservative government quickly came to show generally far less sympathy for local government. After the `winter of discontent' it was this breakdown of the post-war settlement which opened the way for the ideas of the 'New Right' in domestic politics during the 1980s and 1990s (Benn, 1989; Farnham and Horton, 1993). These ideas and the governmental policies deriving

from them, challenged the social democratic principles and values which had dominated British politics since 1945 (see 6.4). The government's economic goals were explicitly stated in the 1979 election manifesto. The emphasis initially was upon controlling the money supply, reducing public expenditure and cutting income tax (Marsh, 1991). Markets now became preferred to politics as the means for allocating resources and distributing welfare in the new `enterprise culture' of the 1980s and 1990s. The responsibility for providing public services and welfare shifted from largely monopolistic state provision to a mixture of public, private, self help, family and voluntary sources. Targets were the large impersonal and centralised state bureaucracies. The water industry mirrored these trends with the imposition of statutory financial controls and the associated changes in accounting policy and manpower reductions. This change period culminated in the nationalisation of the water industry which would bring it under firmer Whitehall control.

4.9.2 statutory financial controls

The post-79 managerialist philosophy had a number of important consequences for the water industry. WAs were pushed strongly towards more self financing and less borrowing. In 1981 the government decided that the water industry should borrow less and less until they financed each year's capital expenditure out of that year's income and repay existing debts before their due repayment date (Barty-King, 1992:168). All such financial restructuring led to larger water bills. Indeed Whitehall became much better in the early 80s at setting targets and limits for each nationalised industry that would really put management under recurring pressure to reduce costs and reduce external borrowing.

There were three main devices for this: 1) External financing limits tied potential levels of investment closely to target levels of internal cash generation which could be reduced each year. 2) Financial targets prescribed a level of surplus to be achieved, expressed as a return on capital which would be gradually increased (as a percentage on asset values also increasing) each year. 3) Performance aims were set to prevent the cost reductions being achieved by reducing the spread or level of services provided. This last device was to ensure that the water authorities should be seen by their customers to be giving value for money, both with regard to the quantity and quality of service (see Appx 4.2).

4.9.3 accounting policy

Fixed asset accounting is of fundamental importance in the water industry as it is characterised by substantial investment in long life assets. The main accounting form used was the historic cost accounting (HCA) system with additional reporting on a current cost accounting (CCA) basis. Current cost accounting (CCA) was introduced into the industry in 1981 to be used alongside HCA reporting. Although it was adopted voluntarily, it was not without pressure from the Treasury. The CCA methodology was applied to all assets. Particular problems were found however when applying CCA to underground assets. Within the water industry there was the generally held view that CCA asset values are too high and that asset lives used to calculate the CCA depreciation are too short. This is based on the fact that estimates of capital spend for renewal are always significantly less than CCA depreciation. CCA is said to attract only a `compliance' view from auditors (UBS Phillips & Drew, 1989).

The then accountant with the NWC, Peter Hall, described the impact of CCA as creating general confusion because the industry had inherited historic cost or debt

related expenditure:...*you had a situation where the historic cost of the industry was something like a billion and the replacement cost was something like 50 billion or more.* This meant a rather different rate of return when setting prices according to the current cost and the increased rate of return provides an enormous profit on the historic cost which is reported.

The effect of adopting CCA was much more to improve cash-flow and internal financing through higher charges than to produce accounts more accurately reflecting economic reality (Kinnersley, 1988:117). A more practical result was that with the low cost returns as a result of paying off debt, WAs were unable to carry out capital works to comply with certain regulations, all the capital expenditure controls being subject to a different regime. According to Peter Hall: *I think what they found most difficult was they could save money by being effective and efficient but they couldn't actually use that to do the things that legally they were bound to.*

4.9.4 manpower

In the period following the 1974 reorganisation, manpower numbers increased (Fig 4.2).

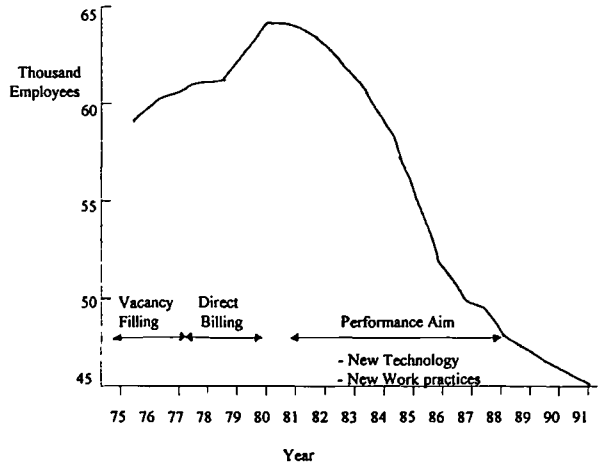


Fig 4.2 Manpower in the Water Industry 1975-91
Sources: WSA (1991) & UBS Phillips & Drew (1989)

The reasons for this were: the introduction of direct customer billing; continued demand growth and the filling of vacancies caused by many employees not wishing

to transfer from their original employers (mainly LAs). After 1979 manpower numbers began to fall - accelerating after 1982. A nationally based productivity scheme for manual workers was introduced after 1980 and the introduction of stringent operating cost controls on authorities in 1982 forced major reductions in manpower through continued changes in work practices; the introduction of technology and cutting corners on achieving levels of service targets (UBS Phillips & Drew; 1989:24).

4.9.5 1983 Water Act

In 1982 the Conservative Government acted on complaints from some sectors that WAs were not responsive enough to the market or consumers. The 1983 Water Act swept aside LA representation in favour of a small governing Board, meetings which were closed to the public and Chairmen from industry rather than public or environmental affairs (Williams et al, 1990). The substantial reduction in board size did away with the need for management committees. Instead, reporting to the board was established on a more professional basis and channelled through the CEO making a two tier organisational structure (Fig 4.3).

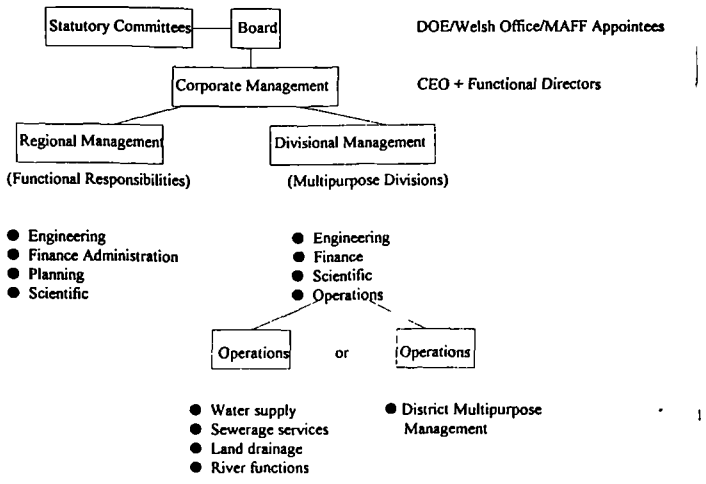


Fig 4.3 Two Tier Organisational Structure Source: UBS Phillips & Drew (1989)

This placed the WAs on a more similar footing with other nationalised industries. The Act introduced a more professional managerial approach to constituting the board - limiting the size to a maximum of 15, all of whom were appointed by central government. Instead local public opinion was represented in the decision making process through consumer consultative committees and various statutory committees representing sporting, recreational, amenity and conservation interests (UBS Phillips & Drew; 1989:23).

The main effect of the 1983 Act was to bring the Authorities closer to Whitehall control which in effect changed the rules for how WAs operated. The CEO of Severn Trent recalls the peculiar status of the organisation: *It was a publicly owned government run organisation...We were accountable to anybody...We worked directly for the DoE. You had to be appointed director of the organisation by the Secretary of State... We were a state owned company, even though we were regional.*

The government abolished the statutory National Water Council in 1983 and the WAs set up their own non-statutory Water Authorities Association to promote their interests nationally (Barty-King, 1992). The soon to be assistant director of WAA, Peter Hall, recalled the impact of the 1983 Act: *as a surprise to the staff of the NWC. Only the Chairmen knew, as they had been taken to one side by ministers. The Chairmen then proceeded to meet quietly elsewhere.* With the abolition of the NWC and the introduction of tighter cost controls and performance aims the industry became more inward looking to the individual authorities.

4.10 Continuity: Commercialisation 1984-87

Michael Heseltine, Secretary of State for the Environment, appointed Chairmen to WAs with the brief firstly, to run the Authorities: *with the efficiency characteristic of any major well run business* and secondly: *to be commercial* (West, 1985). This brief was fulfilled no more thoroughly than by Roy Watts of Thames Water Authority, who within the first year of his appointment was accusing the government of forcing up the rates to customers. This situation arose from the effect of the statutory financial controls which forced up prices faster than inflation (Williams et al, 1990). The whole thrust of the commercialisation phase was directed by government's statutory financial controls which made an impact right through the industry, from the planning stage to operational practices and ultimately upon the quality of discharges and river water quality.

4.10.1 financial controls

Criticisms of the government's financial controls could be heard at the 1985 IWES conference on *The Impact of Financial Constraints on the Levels of Service in the water industry* (Edwards, 1985; Tricker and Hutton, 1985; Kinnersley, 1985; Bellak, 1985). Edwards (1985:3), Deputy Director General of the CBI, noted investment in the water industry had fallen considerably since its peak in the early 1970s. The broad consensus within the water industry and elsewhere was that current levels of investment were too low and further increases of up to £100 million per annum in real terms were required to avoid an increasing backlog of work. Borrowing was being progressively reduced in terms of total water authority borrowing and was forecast to fall to zero in two years. The forward picture of such a trend was that WAs being obliged to progressively pay off their outstanding debts will become revenue raisers for the Treasury.

This view of the power of Whitehall was echoed in the same conference by Kinnersley who likened the financial control to a harness in the way it fits together

and enables momentum to be sharpened or checked. Having its antecedents in the 1973 Water Act, this power was far less obvious to the public than the authority's operational and managerial responsibility in its region: *Power and responsibility tend thereby to be divided: accountability is confused and weakened* (1985:5). He questioned the levels of service indicators and suggested these gave Whitehall greater powers to squeeze WAs.

An alternative voice was that of John Bellak, Chairman of STWA, who spoke of the beneficial effects of financial constraints, justified because of the absence of competitive pressures. However, he yielded to protests relating to borrowing (EFL) and to target rates of return. As no Government would commit itself firmly for more than one year: *Here we run into the inconvenient problem of elections: and that is a very, very strong argument for removing us from the public sector* (1985:7-8) - thereby demonstrating STWA's early support for privatisation.

4.10.2 the planning process

The WAs made two annual submissions to the DoE: an annual plan in March of each year showing detailed P&L and Balance Sheet projections for five years. These were accompanied by a projection of changes in levels of service along with associated capital expenditure. Capital expenditure and level of service projection were also made for a further 10 years out but in less detail with the October submission showing the budget details for the following year. At the end of these documents WAs made a bid for an EFL for the following year.

The water industry developed a methodology for measuring the service it provides based on `levels of service' indicators (see Appx 4.2). They formed one of the two major planks of the regulatory regime following privatisation (the other being price control). During the 1980s, most nationalised industries developed an array of performance indicators (PIs) in response to pressure from the government (Treasury

1978) and numerous critical reports from parliamentary committees and the MMC (Carter, 1991; see 6.4.3).

Investment appraisal being linked to levels of service indicators was problematic, as improving or maintaining levels of service was in turn dependent upon what customers would be willing to pay. Being unable to measure the benefit from an increase in levels of service the industry had to exercise judgement. The WAs in their 'gamekeeper poacher' role had enormous flexibility in deciding whether or not, or how fast to proceed with schemes to improve quality or reliability. They needed this flexibility because of the stringent financial regime forced on them by the government. In practice, however, many decisions on capital expenditure made themselves: *Perhaps one third of spending has to be done to meet statutory requirements...Another third will be on continuing projects. In only the remaining third will decisions need to be made* (UBS Phillips & Drew, 1989:31). Different WAs had different approaches to selecting projects where there was latitude.

4.10.3 operational practices

Financial constraints had an impact on all aspects of the water industry, particularly in operational practices where manpower reductions were the major cost saving. The early emphasis on manpower reduction made possible by reorganisation, had shown significant reductions of the order of 55% (Woods and Noone, 1985). Operating costs rose substantially in real terms across the 1970s, followed by a real decline in the 1980s (Table 4.1).

	1987/88 £m		
	1974/75	1979/80	1987/88
Employee costs	534	630	593
Power	96	132	132
Other costs	520	672	647
Total	1150	1434	1372

Table 4.1 Water Authorities Operating Expenditure
Source: UBS Phillips & Drew (1989)

There was a subsequent knock on effect on sewage effluent quality and hence RWQ throughout the 1980s.

Woods and Noone (1985) predicted a change in emphasis within operations to more technical considerations with pressures for further cost reductions. This would encourage further manpower reductions, while the optimisation of works performance against the triple factors of cost, quality of performance and reliability, meant a crucial area of future development would lie in the improvement of this manpower resource: *Attention to date has largely been based upon the `quantity' element of that resource. The `quality' or appropriateness of manpower as the complimentary resource is now of major importance* (1985:173). This prediction would be realised in the privatisation phase of the industry.

4.10.4 river water quality

One of the consequences of long term reduced capital expenditure was a decline in effluent quality and hence RWQ (see 5.9.2). Ritchie (1985) made this argument most persuasively at the 1985 IWES conference. He pointed out that in overall terms RWQ had slowed with at best marginal improvements since 1979/80. Investment in 1974 was over 70% higher in real terms than in 1983/84. The effect of financial constraints was a lengthening of the time scale for river water quality objectives in order that capital investment could be directed to those projects which would aid the attainment of identified `levels of service'. This in turn, he argued, would have a knock on effect on consumers in the long term, for charges would have to increase due to essential investment in that part of the water cycle. This burden on consumers would be made even more onerous by the government's policy of requiring WAs to move to a position of financing capital expenditure from revenue income.

Since 1979/80 the unit costs of sewage treatment and disposal for a five year period to 1983/84 had remained almost constant despite inflation. Ritchie made the crucial point that efforts made by managers to reduce costs in real terms, in an area where a substantial portion of expenditure was outside their control, were not fully recognised: *It is sad that savings made have had little or no impact on charges, as policy on capital investment has led to a rise in costs which are a measure in comparison to the revenue savings which can be made from operational economies and the reduction in manual staff numbers* (1985:2.2). A similar argument was made by the WAA to the House of Commons Environment Committee and the Royal Commission on Environmental Pollution in 1987:*The problems are exacerbated by fresh priorities introduced by the government without an parallel relaxation of the financial constraints...in the absence of any additional financial resources, a higher priority in one sector can only be achieved at the expense of a lower priority in another sector* (WAA, 1987a: 4).

A significant legislative development for RWQ was the implementation of COPA II in 1986 (see Appendix 4.1). Its major effect, as far as sewage treatment works were concerned, was to allow public access to information about discharges and to allow prosecution by private individuals if WAs were found to be in breach of consent. The impending legislation had led to the practice by the DoE since 1977/78, of allowing operators to reduce effluent quality normally discharged and still stay within the 95 per cent legal limit. This, according to Ritchie (1985) was not only desirable but seductive where there was pressure to control revenue costs in order to conform to the government's performance aims. COPA II also represented an increased administrative burden (WAA, 1987b) in sampling, analytical procedures and in maintaining records: *In practice, COPA II, despite the additional costs referred to, will not in itself improve rivers at all. Only capital investment will do that, together with the public's willingness to meet the increased charges resulting from such programmes* (Ritchie,1985:2.2.10).

4.10.5 government privatisation policy

Privatisation is often seen as one of the hallmarks of Thatcherism and expressive of ideological motivations and goals (Wolfe, 1991; Vickers and Wright, 1989). Maloney and Richardson (1992) stress the pragmatic motives and the considerable criticism which accorded the programme (see 6.4.4). As Helm and Yarrow (1988) point out, privatisation was as much a reaction to the failure to design appropriate regulatory policies in the public sector, as it was to the ideological stance of Thatcherism. Maloney and Richardson see this last point as a reminder that the problems of regulating industry may be independent of ownership. Indeed, they point to the global spread of privatisation, irrespective of political party to suggest caution in seeing ideology as the sole driving force (1992:14).

Pragmatic motives were reflected in some of the early privatisations - such as Amersham International and Britoil. They related to individual companies rather than whole industries, and they called for no special justification beyond a general inclination to move enterprises from the public to the private sector. As the momentum for the programme built up, the train of thought promoted was that what had been good in the early stages for individual companies could and should be good for whole industries, or nationalised utilities, such as British Gas. This move to privatising much larger units, as it caught public attention, was also congenial to a second motivation for privatisation - recognising that it could spread share ownership as the sales of council homes had spread home ownership, leading to what was described as popular capitalism (Kinnersley, 1988:129).

A further argument was that as well as reducing the public sector and the activities for which the Treasury might have to provide some recurring finance, it offered the Treasury an additional inflow of funds from the sale themselves. Given that the Treasury welcomed the cash that privatisation could produce from asset sales, more money could be raised by selling monopolies in their complete form than by

breaking them up and selling them in a potentially competitive format. Thus the Treasury came to have some vested interest in privatisations which move away from their original motivation of promoting competition: and advocates of privatisation at any price were driven to assert that almost any activity, even if conducted in much the same monopoly format, will be conducted more efficiently in private rather than public ownership.

4.10.6 the privatisation process

Richardson et al (1992) see privatisation as having the same status as a new issue. From a political perspective, they record the privatisation process in terms of patterns of actor involvement. Drawing on the concepts of `policy community' and `issue networks' they found these models of actor involvement to be applicable at different phases of the policy process, while neither captured its totality. What they propose is that both policy community and issue networks represent different manifestations of the policy actor interrelationship, through which one individual policy issue such as privatisation could pass at various stages of development.

The pattern of the privatisation process involved four distinct phases: 1. A limited consultation phase, involving only the policy community (ie WAs), here defined as the sharing of community views of a problem which facilitate the development of exchange-based relationships between actors. 2. An extended consultation phase, involving a wider issue network, here defined as open networks of people that impinge upon government. They are characterised as having a large number of participants with no restrictions on entry and are fragmented rather than segmented. 3. An internalised policy-making phase which excluded all groups and resulted in an impositional policy style. A fourth phase reintroduced all groups into the policy making process after the government had imposed the establishment of the NRA.

The chaotic and possibly episodic policy style must be understood in the context of the gradual transformation of a policy community over a long period of time. Prior to privatisation the water policy sector reflected the 1973 reorganisation around IRBM. This was dominated by engineers and therefore emphasised technology rather than political criteria for change. The reorganisation also imbued the industry with a stronger corporate identity. This reorganisation had followed a common pattern of policy making with all established interests accommodated. The water policy sector conformed fairly closely to the model of policy community in which technical expertise was the main basis for consensual decision making.

However, the seeds for radical change had been sown in 1973 which not only introduced major innovations into the administrative framework but also provided for some radical changes in the approach to water management. Water was now regarded as an 'economic good'. Since 1973 it was seen less as a 'service' and more as a 'commodity' (Okun, 1977). Further restructuring through the 1983 Water Act pushed WAs towards a commercial ethos and excluded LAs from the policy community. Thus the distribution of power within the policy community had changed. With LAs excluded and increasingly tighter government financial restrictions on the industry, economic considerations became more important than technology. Thus the decision to privatise was not as radical as first appears. In historical terms the industry had become more 'managerial' while 'technocratic' conventional public accountability had declined.

4.10.7 initiation

In January 1985 the House of Lords questioned whether water price increases above the rate of inflation were required by government in 1985/6. This followed from the then water authority chiefs reminding customers that the government carried the blame for the size of the increases. Sir Roy Watts, Chairman of Thames Water, stated that his authority was unwilling to act as an income tax collector: *It is a*

matter for parliamentary debate. We wish the targets to have the force of law; and until such rules are approved we will if necessary, issue our own charging policy to reflect our own figures. The targets imposed are excessive (Barty-King, 1992:172).

The *Water Bulletin* reported that Thames Water were taking on the government. Sir Roy Watts used the charging debate to press for serious consideration of the privatisation of the water authorities and instigated a backbench revolt against the government. That is seen to be the beginning of the privatisation programme that was completed in December 1989. At the end of January 1985, the Prime Minister, Margaret Thatcher, had told the House of Commons:
The government would welcome new ideas on privatisation. However, the water authorities are natural monopolies for many of their functions and we need to be particularly careful when considering replacing a public monopoly with a private one (Barty-King, 1992:174).

In February 1985 Treasury Orders on Rate of Return provoked and annoyed the management of some WAs. Roy Watts continued to play a key role in the initial stages. Since Watts' appointment he had transformed the culture of Thames to more like an American Utility Company than a British Service organisation. This initiative from one part of the industry (the largest and most prominent WA) reflected the changed values of new managers - though not the involvement of the water policy community as a whole (Richardson et al, 1992).

Despite the categorical denial of any intention to privatise the industry, the first inkling of privatisation from the government came with Ian Gow's speech in February 1985. In attempting to secure the ready passage of a Formal Order, required to set next years financial target for Thames Water and in order to overcome the backbencher unrest, Gow spoke of: *examining the possibility of a measure of privatisation in the industry*. In the same month Watts volunteered to be

the first to be privatised. Within a month there was newspaper speculation that TWA would be a candidate for sale into the private sector. This series of events effectively threw open the whole privatisation debate and propelled the industry towards the next major change in 1989.

Thus privatisation arrived on the agenda suddenly. In the policy initiation stage one sees an absence of policy community influence or of widespread consultation process (Kinnersley, 1988:127). The issue had been raised, no more. The key instigator, Roy Watts was described in the Director as "the government's thorn": *Thames in the shape of its chairman, has been questioning, argumentative and, some would say, difficult. "Those are accolades I have no difficulty with," says Watts* (Rock, 1988:61). It was between the initiation phase and the successful privatisation that the key decisions were made.

4.10.8 restricted consultation phase

On 1st April 1985 a discussion paper was issued - restricted to WA Chairmen. The response stressed the need for the principle of IRBM to be maintained (Williams et al, 1990). The restricted definition of its initial policy community had significant ramifications for later development of water privatisation policy. It was the cause of the first controversy as government was criticised for the limited scope of its consultation exercise. The DoE paper asked for views on separation of operational from regulatory functions, also:...*whether pollution control and river management in general, together with nature conservation, recreation and land drainage, are best kept in the public sector, or whether it was possible to impose as obligations on the private sector operational bodies, with setting and policing of these bodies to be carried out externally* (Richardson et al, 1992).

The Water Minister John Patten received 43 responses, 7 supported the principle, 11 opposed while 25 commented on the practical issues without expressing a view

on its merits. The leaders of the industry were divided and reluctant to enter a controversial political territory (Rock, 1988). They took the stance that the decision to privatise was a political one while the practicalities were of central concern to the industry. The WAA had started to look for ways of introducing private sector involvement in the mid-80s, driven by a general frustration with public sector finance. Peter Hall: *There was a real interest in alternative ways of financing the industry. We had a small group looking at privatisation opportunities, mainly because we were hearing a great deal about the French franchising processes. We thought that wasn't quite right for us...this committee reported and said without a major reorientation of the statute there wasn't a great deal anybody could do.*

The WAA felt authorities should be privatised as they stood with all obligations embodied in a license to each authority. They stressed no clear line between operational activities and environmental regulatory functions, although internally they recognised the possibility of internal conflicts between community and regulatory objectives.

Of the WAs Thames was most enthusiastic indeed, Ken West, the MD, suggested to an IWES conference in December 1985 that one possible way forward to balance the stakeholder interests of the industry would be to privatise TWA as an experiment and model which the rest of the industry might build on in later years (1985:10). Anglian and SW questioned the likely benefits and Welsh and NW (Oldfield, 1985) opposed the proposal outright. The other five were at this stage non-committal.

In 1986 a White Paper and a report on the *Economic Regulation of Privatised Water Authorities* was issued. It stated WAs were to be privatised in toto. Land drainage and flood protection were to remain under public control but it conceded there were still details upon water law and protection of the water environment to be clarified.

A public consultation was promised. In March and April two Green Papers appeared: *Water and Sewage Law* and *The Water Environment: the next steps* (Williams et al, 1990).

4.10.9 extended consultation phase

Much of the controversy of the 1980s reflected concern about placing in private hands a natural monopoly responsible for services so essential to public health and well being. As with the 19th century debate on municipal versus private enterprise, the facts were often subsidiary to the politics. It was difficult for the politicians to admit that they had failed to maintain the great Victorian water legacy because investment in underground water pipes and sewers had always been less politically attractive than roads and houses, schools and hospitals. That underground network was now in need of repair and renewal (Barty-King, 1992). Indeed, interviewed in the Director, Roy Watts argued that competition was not at the heart of the argument: *I think that it would be difficult to sustain an argument for privatisation on the grounds of competition and, frankly, I don't think that I would try* (Rock, 1988:60). He insisted that his support for privatisation was for the benefit of the customer.

There was a deluge of opposition to the proposals: CPRE, Institute for European Environmental Policy, RSPB, CLA, IWEM, CBI and trade unions and MAFF (Richardson et al, 1992). The RSPB met with officials from the DoE and MAFF, submitting a 35 page critique of the *Water Environment* Green Paper. The RSPB's response echoed most in their conclusion that the government had paid insufficient attention to environmental protection issues, in preparing its proposals for WA privatisation. They argued the government should undertake a full reexamination of the proposed framework for privatisation (Williams et al, 1990). Faced with wide ranging opposition the government withdrew and agreed to think again.

Three decisive factors forced the government to shelve its 1986 proposals, widespread opposition, particularly concerning environmental control; Mr Ridley's arrival as Secretary of State in May 1986 was a major influence and the legal controversy raised by CPRE and IEEP over EC law. Most participants recognised water policy was subject to `Europeanisation'. There was a shift in the locus of power from Whitehall to Brussels. Both government and the majority of interests normally consulted were slow to recognise the full implications of this shift in terms of lobbying (Richardson et al, 1992). The CPRE made it clear that it would take the government to the EC court. Prof Jacobs, Chair of European Law, Kings College, London was commissioned by the CPRE and concluded: *It is quite likely that the European Court would decide that privatised water companies were not bodies which the UK could properly designate as "competent authorities"* (The Times, 13 May, 1986). The EC responded by issuing a carefully worded warning (Ends Report 140). It appeared that a competent authority had to be completely separate and independent from the recipient of its authorisations. An internal report circulated within the WAA Feb 1987, suggested the solution was for the government to create a separate body as a competent authority. This was a completely internal matter and the association continued to lobby for WSPLCs as competent authorities. The EC issue illustrates the ad hoc development of the government's plans. They were drafted without reference to this issue and without effective dialogue with the Commission.

It was only by late May 1987 that the DoE finally conceded the WAs were unlikely to qualify as competent authorities. The WAA recognised the government's need to accommodate certain influence groups and began looking for a satisfactory solution with them. They began to search for a consensus within a more extended network of policy actors (Belstead, 1988).

That the privatisation of WAs was postponed reflected the inappropriate choice of consultation processes by the government. The issue had been raised by the water industry and had been resolved by the government in close cooperation with the water industry. The perception that this could be processed under 'standard operating procedures' within a restricted policy community was wrong. A period of more limited consultation had been followed by a more open phase in which actors outside the normal policy community played an important role. This was now succeeded by a period when policy-making became 'internalised', ie government virtually ceased consultations with affected interests - even with those normally part of the inner circle of groups.

4.10.10 internalised and impositional policy phase

During the general election of May 22nd 1987, Nicholas Ridley announced the government's revised plan for water privatisation. The government had concluded that concern about the exercise of regulatory functions after privatisation were well founded. In July 1987 a discussion paper was issued on the NRA. The greatest impact upon conservation interests was development and sale of land and water space (Williams et al, 1990).

This third model of policy-making presented an opportunity to resort to an 'impositional policy style'. The shift was not due to external pressures alone but also reflected the new minister's views. Ridley also recognised that WA chairmen had reached a consensus on the desirability of privatisation, there had been a shift of opinion. The regulatory question could now be resolved by governmental imposition, providing industry guaranteed involvement in negotiations over the new body (Richardson, et al, 1992).

The decision-making process on creation of the NRA was undoubtedly one of the most important single issues affecting the future shape of the industry. It failed to

conform to either of the consultation models outlined, as there was no consultation over the actual change in policy. Although the NRA was imposed by the government, the industry concluded privatisation offered too great a benefit to be jeopardised by opposition to the NRA: *In short, government got away with an impositional policy style and did so rather well* (Richardson et al, 1992).

4.11 Recreation: Privatisation 1987-89

This change period begins with the consensual policy phase of privatisation, whereby WAs having accepted the terms of the government's programme, now participated in the bargaining process towards implementation. Having adopted an impositional policy style, the government then had to shift to a more consensual and negotiative policy style in order to secure delivery of policy as a whole. Management support was crucial to the successful outcome of privatisation.

4.11.1 consensual policy phase

The WAA finally decided to accept the imposition of the NRA and play a full role in the decision-making process relating to the many remaining issues to be resolved. The WAs soon realised a unified voice on major policy issues was vital in order to present an effective front to the department and particularly to the Treasury on negotiable matters of central concern. The government had successfully brought the WAA back into the inner core of the policy community via its switch from 'high' to `low' politics. This was crucial because of the pivotal position of the WAs vis-à-vis their role, both in the flotation and subsequently, in implementing privatisation with the need to maintain their public support for the main thrust of a controversial policy. The high political salience of privatisation was being eroded into a series of more manageable sub-issues which were bargainable. At the same time there was a flurry of activity in the industry as both Southern and Northumbrian WAs bought

stakes in water companies that lay within their bailiwick. Also the three major French concerns had been cross-Channel shopping (Rock, 1988).

In July 1988 the Permanent Secretary at the DoE sent a letter to Chairmen demanding that they speak with one voice. It called on the WAA to establish a compact team to negotiate with the government. The WAA created a new small negotiating team which had daily meetings with DoE officials. The WAA privatisation structure was therefore further supplemented in response to the DoE. The government announced on 20th July 1988 that the 10 WAs would be privatised in one single flotation.

4.11.2 public opinion

Many deplored the transfer to 'businessmen' of a public service such as water supply which had no competitors. This privatisation was the most controversial and, from all the research done, the least admired of the privatisations of Mrs Thatcher's last term as prime minister. Given the size of the investment - £28 billion for ten years - new or imminent EC directives, the backlog of mains and pipe renewal to make good, and the effect of all this on water prices, privatisation always seemed more appealing to those in the industry who knew what they were doing than the industry's customers. Michael Carney (1990, 1991a), Secretary of the Water Services Association, saw the move as offering an escape from political interference and the stop-go investment policies inherent in the UK nationalisation model.

It was no easy task for the government to convince the many genuine doubters that water privatisation was a good thing. The independence of OFWAT and the NRA helped. But public disquiet and debate wore on. Writing in *The Times* in March 1989, Lord Wyatt said the opinion polls suggested that more people were more hostile or indifferent to water privatisation than to any other: *Irrational, atavistic feelings were at work*, he said (Barty-King, 1992: 179). It was vaguely felt that

nature's bounty, if not free, should at least be publicly supplied without a distasteful connection with profit. It was feared that otherwise prices would soar, and concern over quality and pollution of rivers and beaches, and the health hazards of sewage would diminish. The general atmosphere was one in which:...*all the logistics of flotation had to be carried out under very critical media attention and significant political controversy* (Carney, 1991a).

4.11.3 the 1988 Water Bill

There was a delay in introducing privatisation, mostly because of the backlog of other Parliamentary business (Williams et al, 1990). The Water Bill of 23 November 1988 contained a number of provisions and duties applied to the NRA and sewage undertakers aimed at protecting interests of shareholders, customers and environment.

With 179 clauses and 24 schedules, the Water Bill was one of the largest pieces of legislation presented to Parliament by the Conservative Government since it took office in 1979. Several attempts to amend and strengthen the Bill were made during the committee stage, it engaged the support of MPs of all parties and focused on the need for tougher statutory duties toward nature conservation, water quality and the protection of the water industry's surplus land. Many lobby groups, including the Ramblers' Association, CPRE, NFU and RSPB declared an interest in this latter aspect.

4.11.4 WAs' financial position

The Secretary of State was required to set annual price increase limits for the first ten years, expressed in terms of the formula RPI+K, where RPI represents the movements in the Retail Prices Index and K is an element calculated separately for each company which takes account of its particular operational and capital expenditure needs. The pricing limits were determined through a model into which

nature's bounty, if not free, should at least be publicly supplied without a distasteful connection with profit. It was feared that otherwise prices would soar, and concern over quality and pollution of rivers and beaches, and the health hazards of sewage would diminish. The general atmosphere was one in which:...*all the logistics of flotation had to be carried out under very critical media attention and significant political controversy* (Carney, 1991a).

4.11.3 the 1988 Water Bill

There was a delay in introducing privatisation, mostly because of the backlog of other Parliamentary business (Williams et al, 1990). The Water Bill of 23 November 1988 contained a number of provisions and duties applied to the NRA and sewage undertakers aimed at protecting interests of shareholders, customers and environment.

With 179 clauses and 24 schedules, the Water Bill was one of the largest pieces of legislation presented to Parliament by the Conservative Government since it took office in 1979. Several attempts to amend and strengthen the Bill were made during the committee stage, it engaged the support of MPs of all parties and focused on the need for tougher statutory duties toward nature conservation, water quality and the protection of the water industry's surplus land. Many lobby groups, including the Ramblers' Association, CPRE, NFU and RSPB declared an interest in this latter aspect.

4.11.4 WAs' financial position

The Secretary of State was required to set annual price increase limits for the first ten years, expressed in terms of the formula RPI+K, where RPI represents the movements in the Retail Prices Index and K is an element calculated separately for each company which takes account of its particular operational and capital expenditure needs. The pricing limits were determined through a model into which

was input the costs which the companies - after allowing for efficiency improvements - would necessarily have to bear. Cost pass-through is the passing through into charges between K review periods, of the costs of new environmental or other obligations imposed upon the companies, including EC directives and the possible costs of installing domestic water meters (Carney, 1991c). The model calculated the financial performance of the companies for any given level of K. As K is established annually, the model produced possible K profiles for each company over a 10 year period. The Department realised from an early stage that K would need to be positive given the scale of investment requirements in the initial years (National Audit Office, 1992).

Ministers decided provisionally that initial Ks need not average more than five percentage points if the companies had capital structures suitable for their investment requirements. As the National Loans Fund cannot lend to private sector companies, the Department, as with all privatisations, had to write off all National Loans Fund debt totalling some £5 billion. Ministers then needed to decide what capital structure should be created in its place. In June 1989 the Government were assuming a capital structure for flotation in which little or no new debt was created, and in which there was an aggregate cash injection. The `green dowry' cash injection was initially estimated, on the basis of illustrative calculations which were subject to further detailed analysis, at around £600 million. This was later recalculated at £1.5 billion. Beneficial corporation tax treatment meant that no water company was likely to pay mainstream corporation tax over 10 years because of the billions of pounds of unused capital allowances available to be offset against pre-tax profits.

4.11.5 flotation

As flotation approached, WAs secured very strong bargaining positions because they had to sign the prospectus for flotation. They had every incentive to bargain

million applications for the £2.9 billion shares, it was the second highest response ever for a government privatisation. The total amount raised for the Treasury was £5,225 million (Barty-King, 1992:176; Carney, 1991a).

4.12 Continuity: Private Sector 1990-94

This last phase of the industry has been dominated by issues reflected in the various papers which have been written by leaders in the water industry since privatisation. All have been preoccupied with two main themes: the benefits of privatisation and the cost of future environmental legislation to the customer. The benefits of privatisation have been contrasted with the underinvestment of the public sector (Jones, 1990; Carney, 1990, 1991b,c; Bellak, 1991; Brooker, 1991). The case for privatisation is made most explicitly by Carney (1991b) who cites evidence from the USA, Eastern Europe and the EC. He concludes that the role of government should not extend to business. Hood, N (1991) spells out the cultural differences necessary to manage the shift from the public to the private sector.

4.12.1 industry performance

Over the three months following flotation the package of shares out-performed the FTSE All Share Index, moving to a premium in excess of 20 per cent after allowing for the general movement in share prices, by the end of January 1990 (National Audit Office, 1992). The sale of the ten water companies was an ambitious and complex undertaking and the companies had a number of constraining characteristics; they were new trading companies with no track record and the companies were to be subject to three kinds of supervision: the operation of the price limitation formula placed a ceiling on the revenue earning capacity of the companies, they faced strongly negative cash flows over the medium terms which constrained the financial profiles which would be acceptable to the financial

markets, and substantial reliance would be placed on the regulator accepting interim adjustments to K if significant additional burdens were imposed on the industry.

4.12.2 regulation

The lack of competition facing the privatised companies has ensured that the question of regulation is very important (Marsh, 1991). Indeed, it is one of the paradoxes of privatisation that it has involved greater regulation (see Thompson 1990:135). The government is at the centre of this regulation, despite the Conservatives' stated desire to reduce intervention (Graham and Prosser, 1988:8; Barty-King, 1992:176). In surrendering ownership, the government remained as the watchdog, through regulators, overlooking the activities of the private commercial operators. The government maintains its continued interest through two forms of regulation, environmental, embodied in the National Rivers Authority (NRA), Her Majesty's Inspectorate of Pollution (HMIP), and the Drinking Water Inspectorate (DWI); and economic, via the Office of Water Services (OFWAT). Generally, regulatory structures have become more complex with the water industry now having a more onerous regulatory structure than under public ownership (Maloney and Richardson, 1992).

4.12.3 environmental regulation

The DWI was formed to give, for the first time, a national body responsible for ensuring water companies meet the new standards for drinking water quality. They would investigate any significant water quality problems, audit compliance with investment programmes and carry out independent inspections of water supply plants and processes. Where the new standards were not being met they would lay down compliance programmes that companies would have to meet. If any company was shown to supply water unfit for human consumption it would risk prosecution.

The NRA was established as an independent body to look after the water environment - the 'controlled waters' of rivers, lakes, reservoirs, aquifers and the sea around the coast for a distance of three miles. It was given responsibility for river basin regulation, including setting river water quality standards, consenting to discharges, monitoring compliance and for licensing water abstraction from any source. It also had the difficult task of deciding between the competing claims of navigation, fishing, conservation and water abstraction. A total of 6,500 former authority staff were vested in the new body. The creation of the NRA represented a return to the principles of river basin regulation of the 1963 Water Resources Act, but with regions subject to control and coordination by a central NRA board. In July 1992, the government decided to establish a new Environment Agency which would include both the NRA and HMIP.

Compared with other privatised businesses, the WSC's face tighter environmental regulation and many more environmental requirements, in particular from the EC. Most of these requirements result in non-revenue earning expenditure. Improvements in drinking water quality, or sewage effluent, or bathing waters do not, as such, increase revenue. All of them require heavy expenditure and there is a historical backlog to make good. However the Bill and the appointment together attempt to deal with these requirements. The new companies can look to the Director-General to ensure that they will be able to finance new requirements, and also in the process obtain a reasonable rate of return on their expenditure. For the first time environmental improvement is becoming a profitable activity. (Carney, 1992).

4.12.4 economic regulation

The economic regulation of the industry is characterised by the contract approach to regulation whereby a contract is made between the regulated companies and the rest of society. In return for fulfilling their contract, the appointees are remunerated

through the regulatory price cap. The formal opportunity to review the contract is via the periodic reviews. The formal domain of the contract consists of written rules: EC directives, UK water legislation and companies' licenses, which govern the operation of the industry (OXERA, 1993/94).

The DG of water services Ian Byatt, oversees the contract between society and the water companies. By setting the maximum rate of increase of the companies' prices, he determines the contract fees which the water companies receive. However, the necessary level of K is influenced indirectly by quality regulators who enforce the relevant environmental standards: the achievement and maintenance of these standards requires investment expenditure which, in turn, places upward pressure on prices. The contract under which water companies are placed encompasses the following formal obligations: to provide water and sewerage services to all customers within their franchise areas; to charge no more than the price-cap permits for those services and to avoid discriminating between different classes of customer; to undertake a large-scale investment programme to improve the quality of their services and to report annually to OFWAT on their progress in this respect. Alan Booker, Deputy Director of OFWAT, summarised the Director-General's remit: *The first duty is to ensure that the companies carry out their functions. The second is to ensure they can finance their functions. To add to that he has to protect customers and on to economy and efficiency and to facilitate competition which is a little bit difficult at the moment.*

OFWAT only take limited account of regional differences between companies which can be reflected in price setting but otherwise deal in a consistent way with companies. They expect water to be no different from the other utilities in the main operational business areas and to be able to reduce prices all the time. As with other utilities the industry is subject to RPI-X. The difference with water is that having to accommodate quality improvements, this creates a requirement for a +Q element in

the K. K is thus broken down into -X+Q, so that where Q>X=+K and where Q<X=-K.

Ian Byatt saw the raison d'etre of OFWAT as being that water customers could not look to market mechanisms to protect them from unnecessarily high charges or a poor service, or both. His object was to achieve through regulation, the same balance as would otherwise be achieved by competitive markets. The DG has warned the companies that due to the impact of the new regulations concerning municipal waste water treatment and sludge disposal, the K Factor would be made more onerous if the companies pay excessively high dividends to their share-holders instead of ploughing money back into the business (Maloney & Richardson, 1992).

To assist in protecting and considering customer interests, the DG appointed ten Regional Customer Service Committees. The CSCs are seen by the companies as being very close to the economic regulator and quite independent of both. According to Booker: *The industry has become much more customer focused than it was*. One development is the OFWAT National Customer Forum for the CC Water Customer Council (ONCC), comprised of Chairmen of CSCs. The ONCC is now starting to develop some contacts with like-minded bodies in Europe and with the Commission to try and influence the new environmental quality improvement directives. According to Booker: *There is a fairly general consensus that some of these directives have gone a bit too far. The environmental pressure groups are less influential now in the water area...but it is important to recognise that improvements are not a free good.*

The DG has taken up the option provided in the 1989 Water Act of carrying out a periodic review of K factors after 5 years, which occurred in 1994. Comparative competition, linked to levels of service plays a part in the K calculations. OFWAT sets up a monitoring regime which the companies respond to by gathering the

quality framework where they set out quite clearly their intention to try and renegotiate some of the European directives. As nothing has been renegotiated yet, this is one of the unknown areas in price setting.

With respect to prices, market research has shown customers unwilling to pay for many environmental improvements. OFWAT feel that the price escalator which customers have been on for the last four or five years can be slowed and in some cases stopped. With regard to the 1994 periodic review: *We feel that it is possible at a national aggregate level to slow the 5%K which we've had over the last 5 years to somewhere between 0 and 2%. The 2% was set as a ceiling being the long-term average growth in household income* (Booker). Companies were also asked to take account of affordability in their area. There are some efficiency assumptions built into the price limits but if companies want to improve their level of profitability they are required to seek even greater efficiency than has already been assumed by the DG. OFWAT has also asked for even further efficiency savings to be devoted to improving service levels. Ultimately OFWAT are looking to achieve Ks which are going to be much more affordable for customers in the second five years and third five years to 2005. This will mean in real terms possible price increases of up to 10%.

In the organisation of the country's water supply and sewage service, therefore, Government is still very much in evidence. Carney (1992) views it as a well structured compromise: *Private ownership combined with public regulation provides both the market dynamism so necessary in the efficient and economic production of goods and services, and the degree of public control so essential when a private monopoly is responsible for a basic product like water.* In this sense, OFWAT and the NRA could be said to be pulling in different directions to the benefit of the customer.

4.12.5 regulation and capital expenditure

In the first ten years of operation, the ten water supply and sewage companies together with 29 water-only companies planned to spend more than £28 thousand million on improving the quality of drinking water and treating wastewater. At 1989 prices that was more than double what the publicly owned water authorities were authorised to spend by successive governments during previous decades. In real terms the expenditure on wastewater was three times as much (Barty-King, 1992:178). However, less flexibility will remain about where to spend money. Sewage treatment works must meet effluent consents and water quality must conform to standards. The investment choice then reduces down to which engineering solution is the least cost - although the future regulator may allow some latitude for trade-off on timing (UBS Phillips & Drew, 1989).

The underground Asset Management Plan (AMP) was a requirement in the Appointment given to each of the privatised WAs. It is an investment planning tool and one which would probably have been introduced even without privatisation. Under the Appointment water and sewerage services companies must provide an underground AMP covering the mains and sewerage system. This is because with underground assets, particularly the sewerage system, it is possible to vary the rate of investment for rehabilitation, by very large amounts without major short-term effects on levels of service. Governments in the past had used this attribute as a means of solving their financial difficulties by putting a break on water industry investment and building up problems for later. The underground AMP is designed to allow the regulator to ensure that adequate investment is being made in underground assets.

4.12.6 the EC

Laws made by the EC are of increasing importance to the UK legal system in general, and to the areas of environmental protection and public health in particular.

As EC directives are imposed on governments of the member states rather than individuals or companies, each government must draft its own laws by which the directives take force. They form a contract between the water companies and this wider society. Furthermore, since they cannot be amended or repealed by the UK government unless agreement is given by a sufficient number of other member states, they form an even more basic and inflexible part of the contract than UK law. Although there are many directives which have some bearing on the water industry, the areas of particular importance are the environment, public procurement, competition law and social policy legislation.

The environmental directives concern the quality of bathing water (1975), the quality of drinking water (1980) and the treatment of urban wastewater (1991) (OXERA, 1993/4). The water industry is critical of Brussels Commission and complain its standards are unreasonably high (see 4.11.7), thereby forcing up prices to the consumer (*Economist*, 1990). The recent judgement of the European Court in the Francovich case is of great potential significance. This has created a situation in which an individual who suffers physical damage (ie illness) as a result of drinking, or bathing in, UK water which does not meet the required standards laid down in an EC directive, could sue for damages in an English court. The important questions are whether UK water and sewerage undertakers could be directly liable for damages to an individual or, if the government or the NRA themselves found liable for damages, they could in turn seek compensation from the relevant water or sewerage undertaker (Lougher, 1992) .

The public procurement directive means that the UK water and sewerage undertakers will have to observe certain publicity requirements when awarding public works or supply contracts which exceed the value thresholds of £3.5 million and £280,000. Lougher (1992) concludes that the adoption and implementation of Community legislation in the social and public procurement fields may well impose

an increasing administrative and legal burden on water and sewerage undertakers, whilst the EEC competition rules may be more actively applied to the Community water and sewerage industry. Thus, the single EC market heralds an unsettled future for the UK water industry.

4.12.7 the future of regulation

A variety of water industry authors have written on the subject of future regulation. Most are critical of the need for additional improvements (Carney, 1992; Bellak, 1990; Richards, 1991) and point to the need for pragmatism if higher standards are not to lead to a cost-benefit spiral (Bellak, 1990) and diminishing returns (Carney, 1992). Environmental demands are calculated at £24-26 billion over the next 10 years (Jones, 1990; Grove, 1991) for which the customers must pay an estimated 75% increase in charges in real terms compared with 1989/90 prices (Bellak, 1991). These demands will result from EC directives and customer expectations and fall in the areas of wastewater treatment disposal, water distribution, sewerage infrastructure, and information technology; alongside an impending bill of £2 billion for the wastewater at sea directive (Grove, 1991). All writers point out that the costs of regulation are financed more easily in the private sector. For the future there is a general consensus that standards will continue to tighten and the industry will experience ongoing dynamic change in the area of technology (Carney, 1991a).

Other authors cite the impossibility of zero-risk, with for instance drinking water quality (Richards, 1991) and criticise the current EC numeric standards. In the same vein Fraser (1991) stresses the need to interpret complex regulatory jargon into a simplified form. In answer to the upward drift in standards, Bellak (1990) calls for stringent enforcement of the law against polluters and Carney (1992) the need for an advisory organisation such as the government's environmental agency. He is critical of the cost of the current regulatory structure and argues for simplification with one agency (1992:18-20).

Henderson (1990) argues for the finance of additional standards by the customer. He points to the historic background of profitability in the public sector with the Treasury insisting on realistic rates of return. He then lists the priorities for standards under drinking water and waste water. Oake (1991) discusses the options for sludge disposal in the light of the 1998 deadline for alternative dumping at sea. He puts the cost at 25% of the total for water and sewerage undertakers. Skellett (1991) highlights the benefits of privatisation in better sewage treatment. The issue of climate change due to the greenhouse effect is discussed by Turton (1991) in the context of water resources. As climate change could effect water quality and hence availability, he stresses the need for the WSCs, NRA and the DG to use a similar basis on which to assess future water resources and demands. In particular, there is a case for 'cost pass through' (allowing for increases in water charges to pay for additional investment).

The regulatory environment is seen to evolve via the development of informal rules during the course of the regulatory process (OXERA, 1993/94). Much of the action in water regulation has been in the informal domain: on two occasions OFWAT has asked companies to refrain 'voluntarily' from increasing their prices to the full extent permitted by their price-caps; the debate has continued on a number of aspects of methodology for writing the formal contract at periodic reviews, as well as on the issues of water charges, conservation and environmental quality. Recently this has led to a number of changes to the formal framework of regulation (OXERA, 1993/94).

Thus far the government has been mostly interested in financial indicators (Carter, 1991), but it seems likely that the changing climate of growing concern about consumer satisfaction and quality of service, particularly if it finds sufficient voice through Parliament and consumer pressure groups, will encourage the greater use of

performance indicators (Carter, 1991:86). This will be particularly true in privatised monopolies such as water, where the various regulatory authorities will need to use PIs to measure quality parameters such as, for example, river pollution.

Alan Booker lists the issues for the future:*Quality is going to be the ongoing issue...improving service, the introduction of water metering, disconnections and the level of complaints. There may well be ongoing issues about the regulatory regime and a UK economic regulation. The environmental agency will certainly have an impact on the overall scene and the development of statutory WQOs.*

4.12.8 future of the industry

A major challenge for the water industry in the coming years will be to ensure adequate water supplies without damaging the environment. In this respect metering is likely to feature more predominantly. In May 1992 OFWAT told companies to extend the metering option and the government has given the water industry until the year 2000 to introduce a new charging system not linked to rateable values.

The technology employed in the water and wastewater industry will change at a faster pace, driven by the need to meet higher standards with increased reliability and greater efficiency. The focus is on how to free fresh water from contamination by the waste products of high-tech contemporary manufacturing and mining processes, and of intensive agriculture, the consequences of which are exercising the water industry and the environmental movement.

Recurring issues around the questions of absolute standards and safety are deemed to be the 'wrong damn question' by the Water Services Association who see a focus on cost and priorities as more important (Barty-King, 1992). It is this point which Douglas Hurd, Secretary of State, made in a letter in the Economist of 6 June 1992, in which he said pressure groups had increased in power: *They can certainly draw attention to an evil or a gap in policy. But by definition they wear blinkers. Groups that never mention the cost to the consumer of environmental improvements are a topical case. They are not necessarily wrong, just single-minded. Members of Parliament have to weigh, balance and establish priorities.*

4.13 Conclusions

The key issues driving the emergence of the water industry in the nineteenth century were water pollution and scarcity, brought on by increasing social and industrial demand. These issues persisted as the industry came under increasing municipal control, with calls by the new industry bodies for a national water policy and a central authority. The water resource and distribution issues would ensure that the industry remained engineering-led right up to integration.

The key change periods were all initiated by the MHLG (later the DoE) in successive water acts which sought to structure, control and regulate the industry. Despite industry proposals for improved investment and government commissions and enquiries; successive policy initiatives were bedeviled by, in the first half of the twentieth century, two world wars and throughout, by the country's economic difficulties. Thus one can discern a pattern within the evolution of the industry,

whereby the failure of one change period precipitates the initiation of a new industry structure and or status.

It was the failure of the 1945 Water Act to achieve the degree of consolidation necessary to surmount the anticipated water resource and pollution problems which led to the first radical restructuring of the industry along IRBM principles in 1973. The structure of the industry at this juncture revealed that the evolution of the different services had progressed at varying speeds, with only a tenth of the water supply units remaining since the turn of the century while sewage remained virtually unchanged. The economic pressures for amalgamation were always less in sewerage services (UBS Phillips & Drew, 1989), a political reflection of the recurring need to impose financial restraints on public services.

Similarly, national economic difficulties combined with the anomalous status of the industry, contributed to the failure of reorganisation to realise its potential for delivery of an adequate service, at a publicly acceptable price and made the industry a ready target for nationalisation in 1983. Indeed, the concept of IRBM had implanted new notions of water as an economic good and accentuated by the demise of the water resource issue, shifted the emphasis from water as a service to a commodity. After reorganisation the predominance of the engineers had subtly given way to a focus on finance and corporate management.

The very status of the industry under Whitehall financial control flew in the face of the Tory monetarist policies and contradicted the emerging commercial ethos within

the industry. This situation both enabled and provoked, for the first time, proactive moves from within the industry to initiate change. The final shift from the public to the private sector was characterised by a preoccupation with issues of regulation and the environment. These issues have persisted up to the present time without a diminution of public attention.

5. RIVER WATER QUALITY IN THE WATER INDUSTRY

5.1 Introduction

This chapter traces the course of the river water quality issue throughout the history of the water industry. The trajectory of this issue is linked to the developmental phases of the industry following the punctuated equilibrium model of chapter four. The definition of water pollution has been described as:...*occurring when the water is altered in composition or condition, directly or indirectly, as a result of the activities of man, so that it is less suitable for any, or all of the purposes for which it would be suitable in its natural state* (Woodward, 1974). Acceptance of this definition links water pollution directly to water usage and therefore when attempting to detect pollution, different users may adopt different criteria. This is one of the main reasons for the complexity associated with the evaluation of water quality (see Kinnersley, 1988:17-20). Evaluation, then, is a related issue which has significantly affected the pattern of the trajectory of river water quality within the water industry. Of equal importance to the salience of river quality has been the issue of effluent quality as one of the main causes of river pollution. This account will consider these related issues and other key developments around river water quality during each of the industry phases.

5.2 Pre-Industry Context

The rapid physical and social transformations of the 19th century brought about by the intensifying of the industrial revolution; led to the growth of population and of industry and forced physical changes in the towns, most notably in housing, water supply and drainage. In the 19th century, urban and industrial growth kept overtaking the trend of improvements being achieved. In 60 years from 1801, the population not only grew from 10 to 30 million, but also changed its urban/rural pattern from a ratio of 30:70 to 55:45. An official report of 1845 found only six out

of 51 towns had a good water supply, even among the manufacturing centres and major ports. The critical danger signal, aggravated by the arrival of cholera in England (from India via Europe) in 1831, was in the trend of death-rates per thousand in the cities changing from downwards to rapidly rising (Tetlow, 1985:2.3.1).

These physical changes called for much reshaping of municipal government, as indicated in chapter four. In the course of 100 years or so, several aspects of water management water supply, urban drainage and sewage disposal, river basin problems - became in turn the focus of attention in Parliament and in the courts, and often both.

The towns had been growing before the industrial revolution accelerated and had been providing themselves with more water supply as they did so. The manufacturing growth was concentrated in areas with much less local water, such as Birmingham, Sheffield, Leeds and Manchester. These cities had relatively small river systems flowing away from them, and these quickly became heavily polluted as a result of the effluent becoming so large relative to the natural flows (Tetlow, 1985). These towns began to find local water sources unable to support their increasing needs, and went to the Lake District or Wales to establish major new reservoirs and long-distance aqueduct systems (Okun, 1977:184).

Underlying this situation were institutional weaknesses and divisions in professional and public opinion. Edwin Chadwick advocated sanitary reform, which tended to favour central direction. After his *Report on the Sanitary Condition of the Labouring Population of Great Britain,* in 1842, he emphasised systematic drainage as a more urgent priority than better house building which he and others had previously urged. Only slowly was it realised that contaminated water was acting as

processes and the waste products of every factory causing pollution and interviewed numerous witnesses from local government, industry, land-owners, medical officers of health and sanitary inspectors (Hammerton, 1987:333-4). The result of this intensive investigation into water pollution was to propose effluent standards as well as appointing inspectors and conservancy boards. These well intentioned and sensible recommendations were not, however, incorporated in the 1876 River Pollution Prevention Act which provided the basis of all legislation for the control of river pollution for the following 75 years (Hanley et al, 1991).

The important pieces of legislation for rivers during the emergence of the industry were the Public Health Act 1875 and the Rivers Prevention Pollution Act of 1876. The 1876 Act was in some ways more significant: it broke new ground in making the polluting of rivers a criminal offence, but it was qualified in the definition of the offence, and at odds with the criteria which the courts regarded as important in deciding civil cases about use or abuse of riparian rights. The debates and legislation of the 1860s and 1870s are also notable, in a longer perspective, for what was not followed through at that stage. The emphasis was on building up - though not really strongly- the role of local government units created for general purposes as water agencies. All these measures were focusing on local government as the main instrument for the development of utility services, and by further legislation in 1888 and 1894, urban and rural district councils were created.

The new laws aimed to do two things: to make it an offence to discharge or dump sewage and industrial or mining wastes into rivers, and to appoint the municipal

councils as the enforcement agencies for these new restraints. But in the definition of the offences there was an important qualification: the polluters would have a good defence if they had used the best practicable and available means of rendering harmless the wastes and effluents being discharged.

As technologies for the treatment of sewage and other wastes to moderate their impact on the river were only just being developed and spread, this qualification was at least as influential as the basic rule seemingly forbidding the use of rivers as waste disposal channels. As the municipal councils each had a strong interest in sustaining and promoting the growth and prosperity of manufacturing industry in their own districts, they would rarely be motivated to put restraints or cost burdens on its waste disposal opportunities.

One consequence of the leap in technology and the growth of towns and manufacturing from the late 18th century onwards was a great increase in the capability to generate externalities in river basins (especially small ones). This is an economist's principle, where the transfer of costs arising from activities which should carry them, escape, to fall instead on people who should not have to suffer them. There was indeed a major growth in the extent to which they were generated, despite the litigation and judgements aimed at restricting them: *We can also understand that the Victorians in the 1870s could think it was to the advantage of British manufacturers to have the cost-escapes and cross-subsidies implicit in this high level of externalities, though this was in many ways a mistaken economic policy as well as very bad environmental one* (Kinnersley, 1988:156).

5.4 Continuity: Municipal Consolidation 1885-1944

Much good work on river quality needs and sewage treatment processes was carried out during the late nineteenth and early twentieth centuries, assisted by the joint action of several local authorities in forming Boards for their large industrial conurbations. At least from 1920 there was also a period of uneven prosperity in manufacturing industry, with somewhat opposing effects: industries and municipalities became less willing to incur additional costs on sewage treatment, but lower levels of business activity also contributed lower volumes of effluent discharge from factories. Neither appropriate pollution control legislation nor appropriate levels of investment in sewerage, sewage treatment or industrial waste treatment were in place in the UK during the early part of this century, however, and river quality generally declined (Martin & Woods, 1992). Data on investment in sewage treatment (Fig 4.1) illustrates the overall pattern of investment in water services in the UK over the period from 1920. This clearly shows the downward pressures on investment from the two world wars and the depressions of the 1920s and 30s (Martin & Woods, 1992).

In 1898 the Government set up a Royal Commission on Sewage Disposal to examine the problem and suggest solutions. The Commission reported in 1912 on criteria for sewage treatment processes, that were subsequently used for over 60 years (see Appendix 5.1). Higher river flows would allow higher chemical biological oxygen demand (BOD) concentrations in the sewage effluent without causing nuisance; in other words an early application of the environmental quality objective approach to environmental protection (Tetlow, 1985; Mathews & Mance,

1986). The Royal Commission helped to improve what local councils achieved in sewage disposal by setting a general standard of quality for sewage works effluent (known as the Royal Commission Standard).

Tetlow (1985) argues that this standard resulted in the concept of dilution factors tending to be ignored over a period of time and sewage works were often designed such that the effluent complied with the Royal Commission standard of 30/20. River water quality then deteriorated when the dilution factor was less than 8:1, and money was wasted on providing excessive treatment capacity when the dilution factor was greater than 8:1. The point was recognised by the government who in the late 1960s required RAs to justify conditions for sewage effluent discharges more stringent than the RC 30/20, and required local sewage treatment authorities to justify those less stringent than 30/20.

This period was significant firstly for the efforts to modernise the laws and administration of water-related activities other than water supply and sewage disposal, which were dealt with only towards the end of the period. Secondly, for both fisheries and land drainage, new specialist agencies were created with local territories not related to the areas of other local government units. In the period between the World Wars, there was a run of legislation, on fisheries in 1923, land drainage in 1930, and on public health and effluent disposal in 1936-7 (Harkness, 1982). These new agencies for specific individual river basin activities thus came to have not only a separate territorial identity from the local councils dealing with the main group of services such as education and highways, but also a separate

character in their mixed membership. The local councils were still involved, but so were the central government and directly interested groups, such as anglers and landowners.

This mixed membership was notable for bringing the larger councils together with other interests, but also with each other. The power which these councils had been given in 1888 to form river boards themselves (for anti-pollution purposes) had been little used, with only four boards being set up beyond the Thames and Lea Conservancy Boards established in 1857 and 1868. In short, the push towards specialist agencies came from the river basin activities, not the piped services of water supply and sewerage which were very largely in the hands of local councils. This thrust towards new agencies was mostly the work of the Ministry of Agriculture and Fisheries who were becoming committed in the 1920s and 1930s to a coherent pattern covering these specialist functions across England and Wales. This membership pattern was also linked to financing arrangements.

5.5 Reorientation: A National Water Policy 1943-48

In this period 1948 may be seen as the beginning of river basin management. It introduced a sequence of changes unlike the period before it and influenced debates about the structure of water institutions. Land drainage and fisheries provided the institutional foundation for most of what followed from 1948.

The Central Advisory Water Committee issued its third report in 1943 recommending the formation of River Boards to integrate water pollution control, water conservation and rivers control. The resulting River Boards Act (1948) created 32 of them covering the whole of England and Wales, except the Thames and the Lea catchments. In 1944 the wartime coalition government issued a White

Paper on *A National Water Policy*. The Labour Party published their plans for a post-war National Water Commission vested with central control, but local water supply undertaken by publicly owned and controlled Water Boards.

The 1948 Act was the first real attempt made towards comprehensive river management. It made river boards responsible for land drainage, prevention of pollution and administration of fisheries, duties which had previously been discharged by numerous statutory bodies but neither river boards, nor any other statutory body had responsibility for the organised development of water (Woodward, 1967). The river boards were also to initiate programs of data collection on river abstractions and discharges (Okun, 1977:20). The new Boards were to have members from local councils, and Whitehall. These new Boards commanded a political confidence among various vested interests. As a result, they were soon endowed with new powers and functions which otherwise might have gone to local authorities.

5.6 Continuity: Rationalisation 1949-71

Despite much activity and legislation of the previous period, by 1951 many of the industry's rivers and estuaries *were in a state little different from that described in the reports of the Rivers Pollution Commission some eighty years previously* (Hammerton, 1987). This can be attributed to an increase in both population and industry, combined with a lack of political will, the inability to enforce standards and the cumbersome procedure for taking legal action (Hammerton, 1987). This situation paved the way for further legislation to prevent pollution and the more progressive 1963 Water Resources Act. These legislative moves were to lead to a steady but slow improvement in rivers thereafter.

5.6.1 the 1951 and 1961 Acts

Modern pollution control legislation dates from the Rivers (Prevention of Pollution) Act of 1951 which made it a legal requirement for new or substantially altered discharges to rivers to be made only with the consent of the River Board and in compliance with any conditions specified in the consent. A similarly titled Act of 1961 brought under consent control, discharges to rivers not previously so controlled as they had existed before the 1951 Act (Martin & Woods, 1992).

The success of these Acts and of subsequent legislation can be attributed to the new powers given to the relevant authorities to specify the conditions of discharge. This new method of pollution control, known as the consent system (see Appendix 5.2), meant that all effluent charges to non-tidal rivers were made subject to the issue of a consent while some tidal and estuarine waters were subject to similar controls by special order.

The Rivers (Prevention of Pollution) Act 1951 was in one respect a far more positive measure than previous legislation to check pollution. The concept of river basin agencies with multiple activities related to that distinctive territory was gaining strength. Yet the effectiveness of this positive step forward was still qualified by three weaknesses, each of them related to how fully dischargers were ready to accept the new discipline which the consent system projected.

First, the application of the new consents was to be gradual. Existing discharges were to remain exempt from the consent procedure which only applied to new discharges to inland waters. Some of these exemptions were ended by further legislation in 1960 and 1961, but some survived until the 1974 Control of Pollution Act. Secondly, the consent procedure and the extent of compliance with it by individual dischargers was to be kept secret. For fear of trade secrets being disclosed through the composition of effluents discharged, the River Boards were

forbidden to publish any details. The third weakness lay in the representative local membership of River Boards, nominees of local councils who were also members of councils which operated sewage works, some of them being major dischargers. Thus, they could press the Board as regulator and enforcer of consents to turn a blind eye to any breaches of consent by their own councils.

The consequences of these weaknesses in the 1951 Act and its successors in 1960 and 1961 on the same subject became evident in the late 1960s. Also consents to use river capacity for waste disposal were introduced without any system of charging for them. This is a significant difference from the introduction in 1963 of permits for water abstraction with associated charges from the start.

In contrast with the structural reform of water supply units in the mid-1950s, without legislation, almost nothing happened to improve the organisation of sewage disposal activities. In 1974, there were still 1,393 separate authorities (mostly local councils) dealing with sewerage and sewage disposal, although provision for adjacent councils to combine these activities had been made as long ago as the 1875 Public Health Act. The devotion of many councils to each keeping its own sewage service was at odds with their having long neglected it as a Cinderella service.

The responsibility of LAs for sewerage and sewage treatment led to some obvious anomalies in the provision of such services as the administrative boundaries generally bore no relationship to the river catchments occupied. Cases of sewerage networks draining to a point close to an appropriate receiving watercourse outside the LA's area but then being pumped to an alternative works location within the administrative boundary were common. Similarly opportunities for economically attractive joint schemes were not always taken up (Martin & Woods, 1992:2-3).

This suggests also that the pollution control activities of River Boards had so far generated little sense of pressure or urgency for improvement and Whitehall had done little or nothing to stir the apathy. Kinnersley suggests cynically that one explanation may be that: *there are no droughts in sewage* (1988:80).

5.6.2 1963 Water Resources Act

In 1959 England experienced what was said to be at the time the driest summer for 250 years, especially in the north and west. At this period, when industry was aiming at further expansion and farmers talking of increasing spray irrigation, there were still no agencies explicitly charged with the duty to conserve water resources or to develop them more widely than various types of user might do for their own purpose. This led to the preparation and passing of the Water Resources Act 1963, on advice from the CAWC, several features of which are still in operation and important today (Okun, 1977:21; Lester, 1965).

This Act served to co-ordinate water resources for the first time on a regional basis. The River Authorities which replaced the River Boards were based on the areas related to the basins of the main rivers, including the Conservators of the River Thames and the Lea Conservancy Board. Their duty was to conserve, redistribute and augment the water resources of their areas. They had thus gathered responsibility for land drainage, fisheries, pollution prevention and water resources, with active regulatory roles in the two latter functions. The President of the Water Companies' Association described the Act as: *The most important piece of legislation affecting the water supply since the Water Act of 1945*. Some saw it as a defence against nationalisation (Barty-King, 1992).

The Act empowered the relevant authority to demand any information deemed relevant concerning the operations of any party removing water from rivers, or adding effluents. It laid the foundations for subsequent legislation concerning the

control of pollution and the access to information regarding the activities of parties utilising rivers and estuaries. Much of the legislation included in the 1974 Control of Pollution Act was derived from the Water Resources Act (Hanley et al, 1991). There was, during this period, a widespread improvement in water quality throughout Britain and fish life was restored to many waters (Hammerton, 1987), made possible by the new consent system and legal powers to enforce the conditions of discharge.

Like the pollution prevention reforms, this Act introduced a permit system for abstractions, administered by the River Authorities. The policy thrust of the 1963 Act was progressive. It was not as gradualist as the pollution legislation had been: virtually all abstractions were to require licensing, though existing ones would be granted licenses as of right. Abstractions were to be subject to charges, and suggestions from farming and industrial lobbies that these charges should only apply to new abstractions were not accepted. The structure of these charges was also constructive as it was to fund the development of additional capacity where this was foreseen as essential. The tariff took account of types of use and the claims they made on resource capacity.

The Water Resources Act consolidated executive power and responsibility, limited though these might have been, in the river authorities, with their consent control of pollution and their power to charge for abstractions and use these financial resources for water resource development. Perhaps the most significant contribution of the short-lived river authorities was their operating experience as true multifunctional agencies, the only such in the water field in the UK (Okun, 1977).

One other major innovation of the Water Resources Act 1963, more controversial and ultimately more unsatisfactory than the others, was the creation of a Water Resources Board (WRB). This was to be a national agency, appointed by MHLG

(later the DoE), but there were different perceptions of its role. Some saw it as purely advisory, to RAs and to ministers. Some opposed it as confusing the relationship between the Authorities with executive responsibility in their respective basins and Whitehall. Despite the heavy criticism of the WRB, the Water Resources Act of 1963, when made law, received a wide range of encomiums: *An important milestone in our history, a great step forward in our water legislation and an immensely important and imaginative measure* (Okun, 1977:23).

5.6.3 the Water Resources Board

In 1966 the MHLG brought in its Memo on limits for effluents more restrictive than those of the Royal Commission. This provided more flexibility in setting consents. Effluent quality had to take account of developments in the knowledge of the chemistry, biochemistry and biology and of the effects of the physical characteristic of the rivers. Further advice came with the *Report of the Technical Committee on Storm Overflows and the Disposal of Storm Sewage* in 1969. In the 1960s and 70s, work showed that a more appropriate determinand for measuring organic pollution was the inhibited BOD test rather than BOD (Mathews & Mance, 1986).

Much good work went into understanding and recording far more fully the increasing pressures of effluent discharges and water abstractions on the small river basins of England and Wales. The consequence of this came in much more regional-scale planning for predominantly engineering solutions. Also the WRB sought to promote long-term planning and flexible co-operation across large regions in meeting the needs of the individual authority areas. But these very initiatives also became pointers to the main weaknesses and things left undone.

The WRB had been given no formal role at all in respect of water quality. (Okun, 1977:25). The neglect of water quality and water pollution by WRB can be attributed to its limited mandate in the Act, its frustration was articulated in its

Seventh Annual Report (Water Resources Board, 1971): *...our strict terms of reference...do not include...prevention of pollution, but water quality is a crucial factor in nearly all our work... reuse of water in rivers plays an increasing part in meeting needs...the most serious defect in the present system is the lack of any national authority charged with planning and co-ordinating the work of the 1400 sewage treatment authorities...*In its final report, the Water Resources Board (1974) summarised its accomplishments of which the quality issue receives a significant mention: *The use of rivers as aqueducts, the use of reservoirs to regulate river flows, and the successive uses of water by a sequence of abstractions and discharges made the problems of water quality and wastewater disposal inseparable from the problems of providing clean water for abstraction.*

More seriously still, the pollution control legislation since 1951 and the RA's application of it had not been strong enough to improve significantly the general level of sewage works capacity and performance in many LA areas. Secondly, while the WRB recognised the long time-scales involved, they had no better ways than other planners of reliably foretelling the future. Their forecasts of future demand for water were heavily influenced by projected trends of increases in population just as birth control was spreading rapidly, and by expectations of more domestic use and more industrial use, just as decline in manufacturing industries gathered pace and energy costs rose sharply. The final weakness of the WRB was the disregard of cost or price of water, evidenced in its 1974 document: *Water - A Strategy for the Future.*

The early 1970s offer a significant snapshot of water industry attitudes over a much longer period. Two decades of rearranging functions and agencies had gone forward constructively, but the old WRB - with scope to provide more leadership than had been available before - had been in the old mould, engineering-dominated and economically illiterate. In addition, through no fault of its own, it had no official

concern with the emerging future problem of water quality (Kinnersley, 1988). Thus a period of innovation suffered in the end from the innovations being poorly directed and unbalanced. Even a forecast of demand doubling in 30 years did not make them apply themselves to economics as bearing on future demand or capital investment needs: *The WRB really offered not a future strategy but an engineering spree - just like the old days, but even bigger* (Kinnersley, 1988:90).

5.6.4 river water quality

The first survey of river pollution in England & Wales, organised by MHLG in 1958, was followed by surveys in 1970 and 1975 by the DoE, with intermediate updating in 1971 and 1972 (Okun, 1977:209). Despite limitations in the law, the fragmentation of responsibility amongst many LAs, the exclusion of many effluents from control, and a reluctance to call upon the law to enforce pollution control, a steady improvement in the state of the rivers occurred over the years (Tetlow, 1985:2.3.2). For instance, Martin & Woods (1992) write of the considerable WQ improvements which occurred in the River Trent catchment over the last 30 years, particularly during the 1960s.

Lester writing about the polluted condition of the Tame discussed the tightening of effluent standards. Before requiring such standards to be more stringent than those recommended by the Royal Commission, he suggested the prime criteria should be the use which is to be made of the river. *It might be appropriate to divide various rivers into categories based on the future use of their water and determine for each river a water quality objective* (1965:10). An idea prefiguring the NWC classification scheme of 1978. In a 1967 paper Collinge warned of an age where rapid developments in chemistry and chemical engineering were leading to the production of a wide range of toxic substances. The presence of these substances in effluents had consequences for drinking water and he questioned whether the current state of medical knowledge was sufficient to assure what was not harmful.

Also the question of accidental pollution, especially spillages hosed into drains upstream of a river intake had serious implications. He ends his article by asking to what extent it will become necessary to raise effluent standards and if the burden upon industry will have an unfavourable effect on the competitive position in the Common Market.

5.7 Recreation: Reorganisation 1968-73

The next reshaping of the industry which brought all water activities together, along with new legislation and the improved consent system, was to redress in particular the balance from too little attention to water quality and almost too much attention to water resources. With the feeling that better safeguarding of river water quality was becoming more urgent, the new decade was to be marked by action in pollution prevention and attention to the natural environment. This judicious mixture of appropriate institutional arrangements, new legislation and a means of implementing these changes resulted in a major improvement in water quality (Hammerton, 1987).

The pressure for reorganisation centred in good measure on problems of water quality management: inflexibility and conflicts in the development of new water supply sources; the promotion of large schemes that would make optimal use of all resources; and most importantly, the inadequate level of wastewater treatment resulting in the pollution of rivers, estuaries, and the sea. Of the six items of policy in Section 1 of the Water Act 1973, only one, concerned with navigation, is little related to water quality (Okun, 1977:183).

5.7.1 sewage disposal

The 1970 Jeger report made some 40 recommendations, some of which were incorporated later in the 1974 Control of Pollution Act, including the ending of

secrecy in the discharge consent system. The real force of the report was its emphasis on how poorly sewage works were operated. It pointed out that full biological treatment capacity was already provided for areas where 80% of the population live, so that effluents of adequate standard should be, and often were, achieved - and even better in some cases. But it then produced the evidence that, on yearly average values for suspended solids and BOD in final effluents, nearly 60% of works were outside the conditions they were required to meet by their consents. Thus acknowledging the very weak enforcement of RA consent conditions as well as the poor performance of local councils in sewage treatment and disposal (Department of the Environment, 1970b).

Many sewage treatment facilities were old and had not been maintained or enlarged to keep pace with growth. Smaller authorities lacked specialised staff to deal with such problems as trade effluent control. As working conditions were often unpleasant, they could not recruit capable operators and consequently works were not properly manned (Okun, 1977:213).

The real problem for Whitehall, then, was how to improve sewage disposal. It would be too slow to give RAs power to build new sewage works as there were too many. A minimum requirement would be to get these taken over by RAs, yet they possessed no managerial or financial resources for such a responsibility. To provide these, a merger of functions which included water supply as well became attractive to the MHLG and to some of the outside interests also.

5.7.2 pollution control proposals

As the last of the consultation papers (1972), the government issued a series of six papers on pollution control. In general, these were addressed to matters that were not to be included in the Water Bill, because of the press of time, but would appear

in subsequent legislation and would inevitably become the responsibility of the WAs:

1. Existing control of discharges and deposits: The government indicated that it shared in the Jeger Committee recommendation that routine pollution control be extended to tidal rivers, estuaries and the sea.

2. Pollution from boats: Legislation was proposed that would prohibit vessels on fresh waters to have appliances that would permit discharges and to enable the WAs to provide necessary shore-based facilities for boat registration. Also, the WAs were to be given the power to regulate discharges from boats.

3. Full control of all trade effluent discharges to public sewers: The Jeger Committee recommended and the government fully supported, that all discharges of trade effluents be subject to control and liability for charges and that the WAs should be given the appropriate powers.

4. Risk from accidents: The Jeger Committee recommended better safety precautions against accidental pollution and provisions for prosecution of those permitting pollution, especially to underground waters which had no legal protection. The WAs were to be given strong powers for control of accidents.

5. Publication of information about discharges to inland water courses: The Royal Commission on Environmental Pollution urged publication of information about discharges because the waters into which the discharges are made are public property. The only value of confidentiality to industry is to protect themselves against action if they had been given a consent by a regulatory authority.

6. Control of discharges of mine waters: Mine waters had in general been exempt from pollution laws and these would be repealed so as to bring mine waters into the same class as other pollutants.

5.7.3 the poacher-gamekeeper relationship

The CAWC's indecisive report in February 1971 objected to integrating in one agency both regulatory and utility roles. The poacher-gamekeeper combination was

a major source of disagreement within CAWC and difficult to resolve. This one substantive question about the Water Act itself was raised at the outset by David Price, then of the Directorate General of Water Engineering in the DoE. Would problems arise from the fact that the WAs would be responsible for discharges from their own sewerage systems as well as being responsible for these discharges complying with standards that the WAs themselves would establish? Would the WAs be both polluter and regulator, poacher and gamekeeper? LAs would continue to be responsible for seeing to the wholesomeness of potable water supplied by the WAs, a division of responsibility that would no longer exist for water pollution control (Okun, 1977:217).

The internal structures created by the WAs would see to the independence of those within the authority responsible for checking on water quality (Mathews & Mance, 1986). A quality advisory panel would act as the WA's internal check on water quality. To provide the necessary degree of independence, this panel must derive its power directly from the WA and not from one of its committees. It would be responsible for providing reports on water quality, not only on the performance of outside bodies such as those making discharges to the WA's rivers, but also to the WA's own performance as water supplier, sewage treatment authority and custodian of the rivers (Okun, 1977:115).

The water management committee would be responsible for operations and new works in relation to water conservation, water supply, sewerage and sewage disposal and pollution prevention and the oversight of relationships with the water companies, local authorities and new town development corps that operate as agents of WAs. This committee would embrace the whole of the water cycle reflecting the need for unified management.

At the time of the reorganisation Jack Beddoe, Under Secretary in the DoE, averred that those who would condemn the WAs as being both judge and jury were thoroughly 'old-fashioned'. Splitting these responsibilities was like trying to split an indivisible process: *You might as well split water treatment and supply*. One of the most common complaints about the Water Resources Act 1963, he pointed out, was the division of responsibility between the RA's functions in water resources development and the responsibilities of water supply undertakings for water supply (Okun, 1977:218).

The case for putting the issue of permits into all-purpose authorities was that this is a key river basin function and that internally the regulatory staff should be able to influence both investment planning and operational performance to secure better consent compliance (Kinnersley, 1988). Yet the hazard here was that, even with the power provided for the Secretary of State to check on permits issued for the water authorities' own discharges and abstractions, the regulator and the utility operators would be colleagues in one organisation under a single management. Moreover, there were issues of even-handedness: if the authority ran its own discharges on a loose rein, would it do the same for other dischargers also or be unfairly hard on them? The 1974 Control of Pollution Act would provide for the ending of the secrecy in the discharge consent procedure but as implementation of this kept being deferred, the serious conflicts involved in these functions were largely kept away from informed independent scrutiny.

Woodward sounded a note of caution on the effects of regionalisation on RWQ, as there may be less control of the major source of water pollution ie sewage effluent, than with the former system. The effluent standards required by the former RAs could only be altered by appeal to the appropriate Government Minister. One could envisage a situation within the RWAs, however, in which desirable effluent quality standards could be amended internally, against the advice of those responsible for

Pollution pointed out that classifying a one-mgd river as unpolluted is not very significant, as it is not much in the way of an amenity, yet it counts as much in the Table as the Thames (Okun, 1977:206).

Approximately 56% of the total lengths of rivers in Classes 1 and 2 were unsuitable for abstraction because of insufficient quantity, so that the fact that 92% of the total length of these rivers were in these higher classes was of relatively little significance. All in all, the general quality of inland waters of England and Wales had been improving at a slow but steady rate. This rate needed to increase substantially in the near future, if many miles of rivers were not to remain in poor quality and grossly polluted for many years to come.

5.7.5 1973 Water Act

The reorganisation was not a contentious issue in party political terms. The actual structure created was designed to reflect features of river basin relationships and water quality management problems that were not a matter of political conflict. Moreover, a new mood was evident in the early 1970s, strongly favouring more attention to and better care of the natural environment, as encouraged, for example, by the Stockholm Conference in 1972 and prominent in many other countries besides Britain.

The Water Act 1973 charged the Secretaries of State for Wales and Environment and MAFF with the duties which include the restoration and maintenance of the wholesomeness of rivers and inland water, use of inland water for recreation, enhancement and preservation of amenity in connection with inland water and the use of inland water for navigation, executed through water authorities. Other duties with quality aspects included land drainage, fisheries management, nature conservation and amenity, and responsibility to provide wholesome drinking water. Responsibilities were given with respect to esturial and coastal waters. Periodical

reviews, plans and programmes were required describing the discharge of these duties (Mathews & Mance, 1986).

5.8 Continuity: Integration 1974-79

The issue of RWQ was one of potential concern to the industry, given the state of the sewage undertakings which had been inherited. A new river classification scheme instigated by the NWC showed promise of a national effort towards river quality improvement. However, the economic situation of the nation with subsequent cuts in capital expenditure to the industry would mitigate against these good intentions. Government conspired with industry to delay the introduction of part II of COPA and introduced several measures which led to less rigorous standards being implemented in water quality management. This would lead to a downturn in river quality, not apparent until some ten years later.

5.8.1 WAs' inheritance

The WAs took over all the facilities within their areas for providing water supply (excepting the water companies), wastewater collection disposal and river management. The river authorities had little in the way of major capital investment and were generally satisfactorily staffed. The awful truth, however, did not begin to dawn upon the WAs until they began to take inventory of the facilities that they had inherited (Okun, 1977:214). The technical journals reported almost no criticism of the quality of the water supply facilities inherited, but they were replete with revelations concerning the sewage treatment facilities: *The hypocrisy behind many voices of LA protest* (at loss of facilities to WAs) *has now been revealed. While a lot of councils were undoubtedly very conscientious, inquiries...in three WAs reveal large numbers of sewage works which have been allowed to deteriorate over a period of several years, while staff to run them were either badly trained or allowed to drift away without being replaced* (Wiseman, 1974).

The dominance of water supply engineers in the hierarchy of the WAs led Okun (1977:108) to speculate: *Whether the WAs will suffer from inadequate staff in sewerage and sewage disposal, the field which is to require the greatest capital expenditures during the early years, remains to be seen.* However, one not unimportant benefit was the large number of professionals, relative to their total number in the water industry, that the river authorities contributed to the higher echelons of the new water authorities. Sharp distinctions had always been made between the 'clean' and 'dirty' water fields but the river authorities developed leadership with an understanding of both, a resource sorely needed in the reorganised water industry. This, added to the experience they had in regional enterprises, made them prime candidates for top positions in the new WAs (Okun, 1977:107).

5.8.2 water resources

The NWC pointed out that the WRB's (1973) report *Water Resources in England and Wales* was mainly concerned with bulk water storage and transmission and not the whole of the water supply for which the new WAs were now responsible: *Important aspects of river quality, local distribution, water utilisation and effluent treatment were touched upon only indirectly by the WRB* (NWC, 1975e). The NWC and the WAs did not assume that past trends of water use would necessarily continue considering the possible effects of pricing policies on water demands. Also, better forecasts of direct industrial demand required more detailed analysis on each river than the WRB was able to undertake (Okun, 1977:192).

The WAs themselves faced difficult decisions in determining priorities. Heavy capital expenditures were required for servicing new housing developments and for essential replacements to existing facilities. Increased use of rivers for potable water supplies would not be feasible if sufficient capital were not available for adequate upstream effluent treatment. Restraints on capital expenditure and the impact of

increasing householders' bills for water services were seen to affect the potential for using downstream sources for potable water supplies. The NWC document included the critiques prepared by the WAs. Typical is that of the Severn Trent Water Authority: *We are also specifically concerned, as our predecessors were not, with the balance of expenditure between the various sectors of water management and this will have a bearing on the use we make of the Board's advice* (NWC, 1975e).

Okun (1977) critiqued the WRB's strategy which rests largely upon the economies that would result from having smaller reservoirs and using rivers as aqueducts under the assumption that the downstream quality problems are tractable: *Current technology is and has been for years adequate to render polluted water bacteriologically safe and to monitor that safety. However, the chemical revolution of the mid-20th century no longer permits us to be sanguine that a water supply is indeed wholesome if it is drawn from a polluted source* (1977:192). Similar concerns were raised by The Steering Committee on Water Quality in 1971 (Department of the Environment, 1971a) and Hugh Fish, director of scientific services for Thames Water Authority stated: *It is becoming increasingly difficult for any water authority drawing supplies from a developed river to demonstrate convincingly that the supplies it delivers are wholly safe in chemical quality for long-term consumption* (1975b: 2-4).

5.8.3 consent conditions

Until implementation of the Control of Pollution Act 1974, discharges of effluents to water courses were subject to the Rivers Acts 1951 and 1961 where discharges were permitted by consent (Appendix 5.2). Each WA inherited consent conditions established under a wide range of criteria and it became necessary to re-examine all consent conditions to establish a common quantitative philosophy. The need for a more rational framework for the control of effluents and, thereby, river quality was recognised. The clear need for a system in which the WAs could be publicly

accountable for RWQ led, in 1978, to the formal adoption of river quality objectives (RQOs) for all the significant rivers in the UK (Mathews & Mance, 1986).

5.8.4 1974 Control of Pollution Act

Previous legislation relating to control of water pollution was brought together and extended in COPA 1974. This Act included a number of provisions intended to ensure that the Authorities carried out in a satisfactory and even-handed manner their potentially conflicting roles in the areas of sewage treatment and disposal and pollution control. These provisions included requirements for the advertising of consent applications, public registers of consents and monitoring data and the removal of a previous restriction on prosecution for consent failure (Martin & Woods, 1992). COPA covered many aspects of environmental pollution, water being only one part, and the control of water quality and pollution was covered by Part II. It empowered the granting of 'consents to discharge' by the WA, excluding specific activities from the legislation (Okun, 1977:220). Walker (1979:33) notes that: *unlike the old legislation, there is no system of consents to outlets as such.* Thus under predetermined conditions, pollution may legally be discharged into watercourses (Hanley et al, 1991).

Most significantly, information on water pollution control activities of the WAs was to be made freely available (for an account of the early impact of the Act see Tinker, 1975; *New Scientist*, 1976). Where there is a private interest issue as in the case of trade secrets, application for protecting such information may be made to the Secretary of State. The control samples that the WAs require both for their own operations and the operations of others were not required, to be made public, thereby excluding the public from a significant volume of pertinent information.

A major contentious issue before, during, and after the passage of the Water Act 1973 was the accountability of the WAs to the public. COPA constituted a virtual 'bill of rights' for the public with regard to water pollution. Almost all information concerning consent conditions and audit samples by the RAs had constituted privileged information from which the public and even the damaged individuals were excluded. For example, a downstream riparian owner had no rights to object to a consent or to acquire information about the nature of the application unless the applicant for that consent agreed. The 1974 Act constituted a right-about-face as the WAs were to publish notices of applications for consents and to inform the appropriate district councils and, for tidal water or sea discharge, MAFF. Thus, the way was open for public interest groups to intercede for the public at large (Woodward, 1974), as the new Act permitted private prosecutions without restriction and the WAs as well as those given consent were subject to prosecution. Accepting in general COPA, the CBI expressed reservations about requirements for the release of information and was categorically opposed to the initiation of effluent charges for direct discharges to waters, and to some of the requirements for compensation.

These aspects did not come into force because of concern over their incompatibility when taken in conjunction with the inherited consents. The level of non-compliance with existing consents was potentially very high were these to be interpreted strictly. The need to resolve this issue led to the setting up of a working party by the NWC and to a delay in implementing the main provisions of COPA for almost 11 years until 1985.

5.8.5 water quality management

A new approach to water quality management was instigated due to the implications of COPA and the consequent need to derive a more scientific approach to the setting of consent conditions (Tetlow, 1985). The impetus for this changed approach came

from the top government official in the water field, Trevor Hughes, Under Secretary and chief water engineer in the DoE, who challenged each WA to consider its objectives, river by river, and the uses to which the river is put: *What quality of water is necessary for these purposes? ...What strategy would make the best use of the resources available?* (Hughes, 1975).

One outcome of this challenge was the creation of a WA working party to address these questions: *The NWC and the WAs are working together on a proposal to scrap the principle that all rivers should be improved as far as possible. Its replacement would be a scheme whereby river pollution control would be carried out on the basis of the intended use of the river* (*Surveyor*, 1976). The key principle that would guide the new strategy was stated by David Walker (1976), assistant director general of the NWC:...*consent conditions should be related to the use to which a river is put.* Thus if a river is used in its lower reaches as a source of water for potable purposes, the consent conditions would require much greater expenditures for wastewater treatment than if water supplies are abstracted from upstream impoundments and the use of the river as an aqueduct may not be economical. This approach to pollution control opened options for water management that were not considered by the WRB in developing its national strategy.

In 1977 the NWC published its document *River Water Quality, the Next Stage: Review of Discharge Consent Conditions*, which established principles for reviewing discharge consent conditions for implementation of Part II of COPA. The report was adopted by WAs who then specified RQOs for surface waters, following consultation with environmental interests and other users, on the objectives and priorities for improvement.

In reaching their conclusion the NWC reviewed the DoE's simple classification scheme for RWQ (Appendix 5.4). Five broad classes of water quality for significant

watercourses were recognised (Appendix 5.5) taking into account river use and 95 percentile quality limits which provided a sounder system in a statistical sense. Rivers were to be classified on the basis of this scheme in terms of both their current and future river quality objective (RQO) classes. The latter would if appropriate represent an improvement. Consents were to be reviewed on an interim basis to the 95 percentile quality capable of achievement by the existing plant (Appendix 5.2). Where necessary these would in due course be reviewed to long term consents appropriate to achievement of the RQOs. The working party also recommended a switch to the use of nitrification-suppressed BOD, ie BOD (ATU), with separate control of amonia. Certain EC directives on WQ criteria, where appropriate, were included.

It was recognised that not all desired improvements in the quality of UK rivers could be achieved quickly; provision would have to be made in WA capital expenditure programmes for massive investment over a number of years in accordance with defined priorities. To allow the implementation of Part II and maintain a credible position for WAs, in line with reviewed consent conditions to meet RQOs, it was decided nationally to devise "interim" or "short-term" consents. This was particularly for situations where cost/benefit constraints prevented the implementation in the foreseeable future, of consent conditions (known as "long term consents"), required to meet agreed RQOs (Tetlow, 1985).

The proposed new classification of RQ was adopted at the instigation of the WAs themselves, although supported and endorsed by the DoE. Not all WAs adopted this approach to the formulation of RQOs (see Mathews & Mance, 1986:3 on Anglian Water). However, the same principles underlay quality management in all WAs. Each Authority developed initial proposals for the interim and long-term target water quality of specific reaches of rivers, taking account of realistically achievable improvements. These proposals were then the subject of extensive public

consultation and amendment. The RQOs were formally adopted by the Board of each WA and usually not changed without the approval of the Board.

The Authorities' own plans for capital expenditure on sewage treatment were linked to progressive achievement of the RQOs. Furthermore, RQOs provided a reference point against which both the interested public and central government are able to judge the performance of WAs in maintaining and improving water quality. Apart from these self-imposed RQOs the Authorities were constrained by a number of external measures both legislative and advisory. River management was also constrained by national and international legislation, particularly EC Directives.

The posture in Britain for policing effluent discharges that has been characterised by adapting consent conditions to the local situation was affected by Britain's participation in the EEC. The EEC was pushing for uniform standards and regulations for wastewater discharges, being particularly anxious to have these written into national legislation so as to avoid apparent inequities in the responsibilities that industries in the common market countries are obligated to assume. The British delegation to the EEC refused to give its approval to a draft decision on toxic chemical discharges. The difference in philosophy between the EEC and the United Kingdom came to a head in Brussels at the Council of Environmental Ministers meeting on 8th Dec 1975. Britain, the only advocate for this approach won an important compromise, highly lauded at home, whereby member states would be able to choose between the two approaches.

5.8.6 the poacher-gamekeeper issue

The controversy over regulation did not let up after the reorganisation despite the data presented that the 'gamekeeper' without responsibility for the treatment facility had not been exactly 'successful' as evidenced by the legacy left to the WAs. The failure of the adversary relationship was attributed to the fragmentation of sewerage

and sewage disposal in England and Wales, and:...*double standards of control (of most RAs), pursuing industrialists in the courts while turning a blind eye to the local authorities, or, more probably, prosecuting only in those cases where failure to reach consent standards caused serious pollution of the receiving waters* (Lillicrap, 1974). Recognising the problem, WAs established water quality advisory panels with an officer responsible for water pollution control who was free to report directly to the water quality panel and thus directly to the authority. In general, he was either the director of scientific services where such a directorate exists, or in the directorate of resource planning, neither of which is responsible for operations. This arrangement was adopted in all but the Yorkshire WA (Okun, 1977:218).

5.8.7 COPA delayed

With the passage of the 1974 Act during the depth of economic crisis and with the WAs already facing serious limitations on expenditures for which they were already responsible prior to the passage of the Act, the government was understandably slow in initiating implementation. If fully implemented, the Act would put the WAs in jeopardy because of the facilities they had inherited. The requirement for heavy investment in capital improvements did not permit them to correct the situation immediately, and the public would have the right to prosecute the WAs under the Act. Accordingly, a working party of the NWC on behalf of the WAs recommended that the DoE provide a three-year delay in implementing the provision (part II) that authorises the public to prosecute (Municipal Engineering, 1975b).

In February 1975, the DoE gave notice as to its plans for the long-term implementation of the Act, beginning by pointing out the need to restrict increases in local authority expenditures. The government's aim was to implement the Act in two interrelated steps: activating the consent system, and making the discharge of effluents without consent an offence. This second step would give the WAs control of all discharges into tidal and coastal waters up to the three mile limit. The

government did not propose, without extensive consultation with NWC, to implement the provision that authorises the WAs to institute effluent charges for discharges directly to rivers.

The capital investment cuts of the mid-70s and the Control of Pollution Act 1974 combined to create a dilemma for the WAs. The WAs came to feel inhibited by Whitehall spending restraints on how much improvement of discharges they could achieve, yet remained at risk of more public exposure of - and even prosecution for - their widespread non-compliance as a result of the 1974 Act being implemented. Even the National Water Council and the DoE contributed to moves in the opposite direction of openness under Labour and later Conservative governments.

Tetlow (1985) argued that the NWC class argument was spurious due to the broad water quality banding of each class, so that river stretches falling near NWC class boundaries would be penalised, whilst stretches in the middle of a class could have significant quality changes without being identified in the NWC scheme. Warn (1989) also argued this procedure repeated for thousands of sites leads to a large number of false assignments, provoking, with equal harm, undue complacency or demands for unnecessary action. The practical consequence of such an effect is that classes would change randomly back and forth and waste money. The problem of sampling could be controlled by allowing assessors to exercise judgement or by the use of sound statistical procedures. Thus the strict application of NWC classes and their related water quality criteria could cause difficulties in the implementation of COPA. Moreover, the adoption of the 95th percentile quality limits was the subject of much controversy between supporters of absolute standards and those who argued for an average annual quality (for a fuller discussion see Appendix 5.2).

Also, the classification of river quality objectives relating to the purposes for which the water was to be used was considered a questionable move since it introduced the

concept of high river quality being a lower priority unless specific uses compel it (Kinnersley, 1988). In this spirit, numbers of consents were reviewed and relaxed in the conditions they required dischargers to fulfil. Although it was sometimes claimed that the relaxations did not go as far as damaging river quality, it was not clear that the previous conditions had been unduly strict. Moreover, despite the exercise having begun with a helpful consultation paper issued by the NWC, little or nothing was published on consequential action, either as to the number of consents relaxed or made stricter, or the degree of variations made (Kinnersley, 1988:121-2).

Ministers went along with this, both in their role as overseers of the consent standards water authorities adopted for their own dischargers and in the control they had over the implementation of the 1974 Act (Kinnersley, 1988). On the assumption COPA would be implemented, the DoE permitted the WAs to 'rationalise' their consent conditions to the current quality of the river rather than to a true river quality objective.

A further twist given to the implementation of COPA II was the introduction of an exemption order in 1983, which allowed various discharges exemption from the Act and, in effect, made COPA meaningless in those areas until the Government chose to lift those exemptions: *This rather bizarre setting of quality standards to meet the consent rather than the consent to meet the standards has been typical of the Government's approach to the environment* (Hall, 1989:67). Shaw, Director of Finance STWA, pointed out the cost of pollution control:...*a large proportion of our population has become much more aware of the adverse effects of pollution and there has been a growing clamour for more positive action to be taken to control this pollution.* (But) ...*the pressure for a reduction of pollution is not accompanied by a willingness to pay for this benefit* (1975: 9). Furthermore, many LAs had, in the past, imposed very low charges for treatment of trade effluent in order to attract

new business to their areas. He argued against the practice of setting consents to what sewage plants should be able to achieve when operated efficiently with their present equipment rather than requiring extensive capital expenditure to be undertaken to raise the level of treatment.

As the economic climate in Britain worsened through 1975, the government did pull back. In a letter to Lord Nugent, chairman of the NWC, Denis Howell, Under Secretary of the DoE, stated: *... (the government) had reluctantly concluded that in view of the current economic situation, the introduction of the major provisions in Part II of the Act would have to be deferred* (NWC,1975d). Provisions that would not involve significant additional expenditures, such as those relating to the control of discharges of trade effluent to sewers, would be implemented within months, but the control of discharges to tidal estuaries and coastal waters would be delayed. The WAs and industries were expected to cooperate in joint studies of problems affecting these waters in preparation for the long-term plans for the management of these waters.

Government kept delaying implementation of the part of the Act which required the setting-up of open registers of discharge consents and samples checking compliance with them. They delayed this until 1985 - more than 10 years after Parliament passed the legislation. This flew in the face of the registers being an essential feature of more openness once the authorities were given in 1974 the conflicting roles of sewage works operators and river quality regulators. Moreover, behind this screen of continued concealment, further significant relaxations of consent standards for many sewage discharges seem to have been authorised. In this setting, publication of even national statistics of discharges and consents lagged notably behind the equivalent published details of abstractions licensed. The publication of the five-year River Water Quality Surveys were nothing like enough on their own,

either as plain data or any sort of exposure for notable individual polluters at particular locations (Kinnersley, 1988).

5.9 Recreation: Nationalisation 1979-83

Whitehall applied to WAs a standard financial harness for mature utilities and the WAs responded very superficially by showing how well they could fit into it. Moreover, as regulatory bodies for effluent discharges, they ignored developing economic tools so they still depended on legal devices in the form of consents - a system already unequal to the strains being put on it and which the authorities themselves further weakened to some extent.

The WAs were in an ideal position to direct water services efficiently on a regional basis and this did indeed bring benefits. They were, however, increasingly subject to stringent financial control from central government. The effects of this can be seen in Fig 4.1 in terms of overall water services investment. As a result of this reduction in the rate of investment and despite the rationalisation of the consents system outlined earlier, compliance of sewage works with consents remained patchy. Limited progress was made towards achieving RQO improvements despite the initial intention of these being achieved in about 10 years from their publication in 1979 (Martin & Woods 1992).

The way the water quality issue was handled by the WAs and Whitehall is significant. It undermined the key arguments, which many accepted, suggesting that authorities which were environmental regulators and polluters would give high priority to reducing their pollution and to complying with the standards set for their own discharges. Kinnersley attributes the undoing of the WAs to issues of finance and water quality. In respect of water quality, the management in sewage works became too keen to show they could achieve the staff reductions and financial

targets which the restraints required, while the authority's regulatory role, expected to enforce compliance on its own and other peoples' effluent discharges, became increasingly ineffective: *Though Whitehall was the driving force, it is not enough to say that the authorities were bound to respond as they did. Their judgements about which issues to address and which to brush under the carpet were far from rigorous* (1988:116).

Equally in water quality, the authorities hung back from serious attention to improving charges for trade effluent disposal to sewers, or promoting in Britain the concept of charging for discharges direct to rivers. This was a significant failure, both because the equivalent type of charge for water abstractions had applied since the mid-1960s, and because river water quality was emerging as an increasingly serious worry. Moreover, in Europe much emphasis was being put on the Polluter Pays principle. While this has some ambiguities in practice, Kinnersley (1988:119) sees the failure in the UK to make more of the scope for pollution charges as a major policy weakness .

In 1980 a streamlined survey was carried out by the NWC. This survey, which included a new estuary classification, used more objective criteria than the 1975 survey that could be linked to river use. In order to allow reference to previous surveys, the 1980 survey data were also presented in accordance with the former classification system (Appendix 5.5). Comparison of the detailed results with the former surveys showed continued improvements in RWQ, particularly in the reduction in lengths of grossly polluted rivers. There had been deteriorations but generally without detriment to users of rivers (Tetlow, 1985). Overall, no notable changes were recorded for any authority (NWC, 1980:14).

5.10 Continuity: Commercialisation 1984-87

This period is notable for a shift in river management policy and practice away from pollution prevention to quality management (Mathews & Mance, 1986). Against the backdrop of the first deterioration in RWQ since 1958, the introduction of COPA II and environmentalism, WAs became more motivated by the need to avoid prosecution than achieving long term RWQOs. Additionally, increased capital expenditure after 1985 was largely misdirected towards unnecessary or misleading quality standards, thereby belying the emphasis on "quality management".

5.10.1 modern river management

The shifts of policy and practice related to water quality since 1974 were seen by some (Kinnersley, 1988) as largely devices to handle (and conceal) awkward situations rather than address and remedy the real sources of strain. However, Mathews & Mance (1986) provided a more positive interpretation of modern river management: despite the erosion of the original concept of the special role of Directors of Scientific services at this time, this change had not had the dire consequences which might have been predicted in the mid-1970s. Instead, staff with responsibility and integrity who care for rivers and are able to allocate resources as part of a wider remit of management had been available. An essential feature of modern RWQ management was its integration with operations and strategic planning. The annual plans and action for their execution had clearly stated cost benefits and investments in sewage treatment could be correlated with improvements in river quality. The cost of meeting specified river quality targets could now be predicted.

The essence of the philosophy of river management was now quality management and this represented a shift from the former ideas of pollution prevention. This was indicative of the current managerialist trend within the public sector generally and the water industry in particular since nationalisation (see 6.4.2). However, pollution

prevention still had a role, particularly as the number of pollution incidents was rising so that many water quality departments considered there was no longer sufficient resource in this activity (Mathews & Mance, 1986). Pollution incidents were an area where traditional attitudes of persuasion still played a major, but apparently ineffectual, part since pollution incidents rose from 12,500 in 1980-81 to 21,095 in 1986-87: *Litigation is expensive, time consuming and, of course, in many cases the polluter may be extremely difficult to identify* (Hall, 1989: 68).

Mathews & Mance (1986:5-6) concluded that various good techniques exist for modern river management based on integrated management plans but in practice there were weaknesses. Considerable effort had been expended in monitoring effluent, river quality and river flows. But few effluent flows were accurately gauged and more refined management of river quality required this to be remedied. Also, too few river samples had been taken in many places to provide a statistically sound definition of quality. This was being redressed, wherever possible, with existing resources. The same critical scrutiny as that given to sewage effluents and resulting in "look-up" tables was required, as this was vital in the context of 95 percentile criteria underpinning the NWC classes, especially if RQOs were to be given the force of statute.

5.10.2 the 1985 RWQ survey

The 1985 River Quality Survey showed for the first time since 1958, the mileage of river quality deterioration overtaking that of improvement. Over a quarter of total river length was recorded as having changed in quality: 12% in 1985 was of higher quality than 1980 and 14% of lower quality. There was a slight decline in length of Class 1a and 1b rivers between 1980 and 1985 - net deteriorations came to 903 km out of nearly 40,000 km surveyed. However, differences in methods used between WAs and changes between surveys made it uncertain whether the apparent small net deterioration represented a real change (Department of Environment, 1985).

Appendix 5.5 shows the results of these surveys over nearly 30 years, with the record of improvement turning downwards after 1980.

The surveys showed that substantial reductions in the lengths of seriously polluted rivers and canals during the 1970s had not been maintained in the 1980s. While some regions had continued to show improvements, there had been a small net deterioration in overall RWQ between 1980 and 1985 due particularly to setbacks in the NW and SW WA areas (Fig 5.2). This was accounted for largely by the rise in agricultural pollution and a decline in some sewage treatment works effluents, the latter being associated with cuts in public expenditure (Royal Commission on Environmental Pollution, 1987). Improvements in WQ were attributed to investment by WAs or by industry (Department of Environment, 1985).

In the report of 1980 it was emphasised that a reduction in pollution was only possible by investment by WAs and by industry. The WAs pointed out that many desirable projects in this area were being deferred because of reductions in public expenditure and limitations on charges for water services. The pattern of investment in sewerage and sewage treatment is shown in Fig 4.1. Estimates for years prior to the reorganisation, though less reliable than recent information, show the general trend of investment which rose to a peak in 1974 before declining. Since 1981 investment had again been rising and WAs in their annual plans proposed to increase real investment in these services. The overall forecast was for relatively little net change in WQ. The lengths of Good and Fair Quality rivers were expected to increase by some 2% while the lengths of Poor and Bad Quality rivers would decrease substantially, by over 20%. This amounted to a net reduction of some 860 km in the length of Poor and Bad Quality rivers.

A Water Authorities Association document to the House of Commons Environment Committee in 1987 summarised the results of the 1985 survey: *The WAs have the*

technical knowledge and management skills to produce satisfactory effluents but are constrained by government cuts in borrowing limits, by cuts in operating expenditure and by pressures from customers to limit increases in charges. In addition, the extension of controls under COPA and the implementation of EC directives require a further commitment of resources for monitoring and enforcement.

5.10.3 COPA II

In 1986 Part II of COPA was finally introduced after the setting up of the registers in 1985. Part II makes available a coherent framework for managing all environmental waters, including groundwater estuaries and coastal waters, lakes and river waters. This required discharges to obtain consent from WAs who may impose such conditions as are reasonable. The only instance where advertising for consent was not required was where the discharge was considered to have "no appreciable effect" as defined by the DoE. However, there had been problems with this because it was been based on a proportional increase of quality which lead to different assessments in different areas depending on the prevailing quality and NWC class (Mathews & Mance, 1986).

Peter Hall, assistant director of the NWC at the time, recalled the impact of the new Act: *COPA II was written in an extraordinary style and not the style it was written in the late 60s. Some of the implications of that were quite severe for us. But they did bring measurement into things like discharges...Backing it was a matter of policy. And the consequences of that was that basically many of the sewage treatment works didn't meet their consents.*

5.10.4 financial implications of quality standards

Capital spending by WAs had been allowed to rise since the registers for COPA II were in place. As this was financed substantially by internal funds from higher

charges (in broad terms, 1 billion a year capital expenditure undertaken with external borrowing of less than 50 million, compared to less than 20 per cent internal financing of capital spending in 1974), this did not concern the Treasury. Performance assessments stretching back in time had indicated a fairly consistent shortfall between the quality of current effluents and that needed to protect rivers which now seemed to be getting worse. This suggested that in spite of recent investment little or no progress was being made towards achieving RQOs. Future cutbacks in investment would lead to an enlarged shortfall.

Tetlow makes a strong case for giving due regard to technical matters in setting standards if there are not to be misleading assessments of compliance and waste of capital resources (Appendix 5.2:4). He summarises: *Quite simply, all assessments of compliance on which improved conclusions are drawn, or on which key decisions are made, must be done in a way which controls the effect of sampling. This is no optional embellishment; failure to do this places a strong random element in the way capital is allocated* (1985:2.3 7).

COPA had placed an emphasis on avoiding prosecution leading to a focus on compliance with current consents as opposed to achieving the Long Term Consents. Investment directed at the former would not always benefit rivers as much as the same money spent on achieving Long Term Consents. If the object were solely to reduce the number of failing works, it would be cost effective to invest in small works which fail only marginally. A better policy, for the rivers, would have been to invest according to the effects of discharges on river water quality. In this way COPA had the effect of delaying long term RWQ improvements.

A second confusing factor was unnecessary or misleading quality standards. Since the 1912 Royal Commission Report there had been a long tradition of using suspended solids to manage the quality of effluents, but this parameter has been

shown to have little general significance for the health of rivers, as long as BOD is controlled. Hence, it made sense to drop suspended solids from most Long Term Consents. Failure to take this measure gave compliance statistics which were less useful in directing resources towards true needs because the statistics were corrupted by trivial failures to meet limits on suspended solids. Harkness (1982) made a similar point when he noted the effect on RWQ arising from the full treatment of all sewage flows: the river BOD did not improve below the treated effluent discharge as expected, suggesting the degree of nitrification in the BOD test might have increased with a decrease in pollution so that little change occurred in unsuppressed BOD results.

A more important corrupting influence was the externally imposed standards. This had two aspects, the standards themselves and the imposition of incorrect methods of assessing compliance. For example, ammonia was known to have strict standards and so limits for rivers must be based on a comparison of the health of the rivers and their WQ statistics. All these corrupting influences altered the perception of need and confused the allocation of resources. They extended the time by which, with current resources, improvements could be achieved.

5.10.5 environmentalism

Agg & Zabel (1986) acknowledged the strides made in recent years to clean up rivers. Nevertheless, the UK water quality maps were still showing large stretches of rivers as Class 3 and 4 and would do so for the foreseeable future. These waters exhibited limited, and in some extreme cases negligible, biological activity. Given that the number of reported pollution incidents in England had risen significantly, a major issue for the future was how to control potentially dangerous substances (either during production or in use), and in particular the problem of selecting those chemicals requiring control, their origins and the control options available.

River quality and the siting of reservoirs were environmental issues in the water sphere which traditionally attracted public concern, now in addition there was drinking water quality (Price, 1985). Public support and positive reactions by the industry to this concern were becoming increasingly important in the financial climate. Also COPA II allowed the investigation of the quality of discharges to surface waters by the lay person. Some in the industry, faced with the constraints of recession and need to cut costs, inevitably resented and resisted pressure to spend more money on effluent treatment, other WAs were uneasy about publishing the antiquity or lack of capacity which prevented compliance with limits.

Environmental quality, including river quality had become a politicised issue during the mid-1980s and environmental groups were joining anglers in putting pressure on WAs (Price, 1985). Surveys on environmental concern in UK adults, conducted by Taylor Nelson Applied Futures, demonstrated quite clearly a sharp up-turn in the mid-1980s, a figure now likely approaching 50% of the population (Soulsby, 1989). The rise of environmental politics resulted in the much greater involvement of the Secretary of State for the Environment and his department in water quality planning, at a time when a firm commitment had been given by central government to privatise Water Services. This raised questions about how to deal with environmental services. The privatisation "White Paper" in particular left unanswered the relationship between the DG, WSPLCs and DoE. Also the proposed separate responsibility of land drainage bodies had unknown implications for overall river management. How would the water quality objectives plans differ from those in the present informal arrangements? The only certainty was that modern river management was likely to be turbulent for many years.

Soulsby (1989) called for the water industry to encourage an environmental approach throughout their organisations which stressed the environmental importance of all operations. If environmental audits were incorporated into all

design processes then more environmentally favourable solutions could be found for all schemes. A response to environmental demand suggested greater costs but also created enormous opportunities for the businesses which develop the acceptable technologies. Business opportunities existed in effluent control and in waste disposal in the UK and abroad.

5.11 Recreation: Privatisation 1987-89

During this change period environmentalism remained high on the agenda and intensified as the privatisation process entered its fourth phase (see 4.10). Coincidentally, 1988 was European Conservation Year celebrated in posters, projects and prizes with notable contributions from the water industry (Soulsby, 1989). Pollution prevention had become a £2.2 billion industry in the UK including a substantial contribution from the water industry. It was a market set for huge growth if the environmental awareness trend continued and was reflected in tighter anti-pollution legislation and control. Similarly the market for environmentally friendly products was also on the increase.

The privatisation process had strongly focused attention on compliance with sewage works consents. Overall failures had been declining, particularly since COPA II and the Government stated that the water industry would spend £1bn by 1992 to allow treatment works to meet consent standards. Even higher levels of expenditure were expected beyond 1992 to comply with tighter consent standards. But more significantly, it was not possible to create private water service companies which would be breaking the law from day one. To overcome this the Government allowed the issue of time-limited consents for works failing their existing consents. They were given temporary consent conditions relating to current performance. Such consents were only issued for sewage works where there were investment

projects in hand to meet at least the original consent limits and often tighter ones. A strict timetable was set for the completion of the improvements.

5.11.1 NRA proposals

Lord Belstead, formerly Minister of State at the Department of the Environment, speaking at an IWEM conference in 1987 gave one reason for the decision to form the NRA as the deterioration in rivers, evidenced by the 1985 River Quality Survey: *...the extent to which sewage treatment works are failing to comply...shows that if justice is seen to be done, the future PLC's really cannot be the regulators of what others can put into a river or take out of it* (Belstead, 1988:238). This view is supported by Kinnersley who summarised the motivations of the WAs in dealing with river water quality:...*they largely took paths of quiet compliance with (Whitehall pressures as obedient utility operators) rather than expose fully the conflicts which all-purpose agencies could not escape under conditions of congestion* (1988:164).

The degree of recognition of the water quality problem was reflected in the *Third Report of the House of Commons Environment Committee*, published in May 1987. The report was published as the general election was called and as Nicholas Ridley put forward his proposal for a National Rivers Authority. The discrediting of the all-purpose authority - which this report really confirmed - may have built up slowly over five years or so, but it became plain suddenly. Kinnersley attributes the blame for this to:...*failures in financing and in policies for water quality, to both of which Whitehall contributed as much as the authorities themselves* (1988:115).

The report concluded that the WAs needed clearer water quality objectives related to timetables for achieving them, and that improved sewage works performance must be attained - even though river and estuary quality in England and Wales was very high. It started to make the case - just ahead of public moves to create a

National Rivers Authority - for putting pollution control and more active prosecution policy in the hands of an independent body not involved with sewage works operation - and urged more prosecution of WAs which cause pollution. Most notably, in recognising the dynamics of the claims on river capacity, the recommendations included a requirement for chemical companies to give their customers data about the hazards of their products, dischargers having a duty to notify the regulatory agency of any new pollutants in their effluent. That agency should have a 'stop' power, as in the Netherlands, in addition to existing more formal procedures for modifying discharge consents. Significantly, the committee recommended Whitehall to reconsider some form of incentive or redistributive charge for direct discharges to water courses. This had a strong economic rationale as a counterbalance to congestion which arises from treating river capacity as a free resource.

These developments suggest several paradoxes in the experience of the water industry. Decades were spent accepting single-purpose river basin agencies, strengthening them and finally bringing them together. They were to achieve better internal planning, but as congestion was also persisting or in places increasing, it was making the internal conflicts all the more acute. The real need now was for more separate agencies and more exposure of the conflicts which involved other interests in the community as well - especially as to the costs involved in money and environmental terms.

In another direction, the effort had been focused over decades on better organisation, though sewage disposal had been long left out of this. But sewage disposal and factory discharges are point sources of pollution, readily identified if not always carefully monitored. But an increasing feature of congested river basins is a major growth in pollution from diffuse non-point sources, eg farming, accidental spillages: *The underlying paradox is that, even if point sources of*

pollution are better disciplined, scattered hazards multiply and strengthen (Kinnersley, 1988:165).

5.11.2 the 1988 Water Bill

The Water Bill expected RWQOs to be made statutory, therefore it was important to ensure a consistent and objective method of assessing performance. Primarily this meant ridding the NWC scheme of subjectivity and exposing the full and damaging effect of sampling error, previously dealt with through judgement. The creation of the NRA was an additional spur toward objectivity by establishing a consistent approach throughout the country and an even-handed approach to all types of discharge.

5.12 Continuity: Private Sector 1990-94

In 1991 5 new Acts which consolidated existing water legislation, were passed and came into force on 1 Dec (Appendix 4.1). Until this consolidation legislation was passed, water law was spread over 20 main Acts and a large number of other statutes dating back to the 1930s, although there have not been any substantial amendments to the earlier legislation. The legislation pertaining to the NRA and relating to WQ and quantity is now to be found in the Water Resources Act (Bowman, 1992). This most recent phase has not had sufficient time yet to see the impact of the Water Bill on the quality of water in the UK, with the 1991 NRA survey showed little improvement. In addition, EC legislation is fundamental to the creation of current water quality controls and this situation became even more pronounced after 1992.

Within the water companies attitudes to quality and environmentalism in general inform how the RWQ issue is perceived. The MD of Severn Trent Water expressed his company's approach:...*we're changing now to a total quality ethic, so when you*

are up to those levels of compliance you actually have to start managing your business to focus on the failures more and more. And we are moving now from a management based largely around performance quality of water supply and sewage effluent to actually business process quality...We also have a strong focus on the environment, because we recognise that we can lose so much support by not being an environmental company as well.

5.12.1 the NRA

The NRA has wide ranging responsibilities for managing water resources and must balance the interests of all who use them, including controlling pollution in inland, estuarine and coastal waters. The 1989 Water Act requires the NRA to control pollution by issuing discharge consents, to monitor water quality and the achievement of national water quality standards, taking enforcement action where necessary. The Government has increased from £2,000 to £20,000 the maximum fine which magistrate's courts can impose for water pollution offences. The NRA also has responsibility to manage water resources and to protect their long-term future by controlling abstraction rates and by managing a wide range of related activities, such as land drainage and fisheries (Hanley et al, 1991).

The NRA will advise the Government on WQOs by maintaining water quality and by identifying where current water quality needs to be improved and will set the timetable for improvements. Specifically, during 1990, the NRA surveyed river and estuary quality (Appendix 5.5) and reviewed its own monitoring practices. The RQOs set in 1979 continue to provide the basis for river quality management at present but the Water Act 1989 made provision for the Secretary of State for the Environment to adopt appropriate sets of criteria for the classification of water quality in respect of use and on the basis of such criteria to set statutory water quality objectives (SWQOs). The NRA has published an extensive and relatively complex proposal for a system of SWQOs based on a general classification scheme

similar to the existing NWC scheme which had no statutory basis and did not relate directly to EC Directives. This system has eleven use-related classes and incorporates the relevant EC Directives (National Rivers Authority, 1991b). SWQOs were to be phased in over the years beginning in 1992 but because of the Urban Waste Water Treatment Directive, all the capital requirements of the industry are oversubscribed. Consequently there will not now be any expenditure on SWQOs until 2005 (NRA Manager, Thames Region).

The system of 95th percentile consents evolved to 1985 remains as the basic control mechanism for sewage effluent discharges (Appendix 5.2). An NRA policy review has recommended that all consents should include "upper tier" absolute limits so as to ensure WQOs are met. These limits would allow the NRA to prosecute a sewage works for a serious short-term polluting discharge at a works which otherwise meets its 95 percentile consent. They are also intended to ensure an even-handed approach to all dischargers, consent limits for industrial discharges never having been reviewed to 95 percentile/look-up-table limits (Martin & Woods, 1992). The report emphasised consents for discharges to inland and coastal waters have to serve at least two key purposes: as law enforcement instruments, setting obligations to discharger and as technical specifications of limits and conditions within which discharge must stay to avoid harm to receiving waters.

Among the many new measures being brought in, the discussion of market mechanisms to institute quality control is an important development (Hanley et al, 1991). The NRA have started to consider the desirability of being allowed to make charges larger than cost recovery and including the likely effects of the discharge on the receiving water environment. In July 1991 the NRA introduced a charging scheme for discharges which was designed to recover the costs of issuing consents to discharge and of monitoring compliance with discharge consents. Such charges did not cover more than about half the costs incurred by the NRA in its work in

relation to WQ. This water quality work is a requirement placed on NRA by legislation and a legitimate charge to government via grant-in-aid to the NRA. The problem is that the government's estimate is not always comparable to cost in practice and may well be inadequate. Within the industry, the current system of 'command and control' measures is being discussed with reference to improvement in water quality but it has still to be demonstrated that market mechanisms can achieve this aim.

The NRA does not forecast changes in water quality management, but they do intend to move to watershed management whereby the whole 'picture' is taken into consideration; for example, they intend to clamp down on non-point sources of pollution.

Environmental and economic regulation are interlinked in several ways and it is necessary for the two regulators to have regular communication to ensure legislation is applied in way that is satisfactory to all stakeholders, including the industry. One of the main issues for debate between the two regulators relates to the rate and cost of improving the quality of controlled waters. The NRA is charged with improving WQ and there is much public pressure for environmental improvement, but the NRA has to have regard for the cost of such improvements. OFWAT's prime interest is in these costs to industry and hence customers. Where the views on these matters by NRA and OFWAT do not coincide, the Secretary of State for the Environment may intervene to determine the rate of improvement of WQ and consequent cost increases to customers.

5.12.2 1990 RWQ survey

A RWQ survey was conducted prior to the setting up of the SWQOs (Appendix 5.5). This was a two part review, the first part designed to replicate as closely as possible the 1980 and 1985 surveys. It had long been recognised that previous

surveys suffered from differences in approach by the ten WAs and insufficient attention to biological criteria. Thus the second part was an overlapping survey based on a standard set of procedures plus a biological survey. In summary (NRA,1991) the report showed that about 90% of rivers, canals and estuaries were either of good or fair quality and 2%, 1% and 3% respectively were of bad quality. Compared to 1985, 15% of total river length was downgraded and 11% upgraded.

The signs are that the pace of deterioration has accelerated since the 1985 survey, though as the comparison with some figures for European rivers shows, the situation in Britain is better than in some countries and worse than in others. Recent results show no obvious change for the better. The fact that no overall improvement can be shown is disquieting since over 4,000 km remain in classes 3 and 4 (Hall, 1989).

5.12.3 EC directives

Before privatisation each of the embryonic WSCs produced costings, in negotiation with the Government, against an agreed list of environmental and WQ obligations. The EC Directive on urban wastewater treatment will have a major impact on the shape of the improvement programme beyond 1995 (Appendix 4.1) as will the Statutory River Quality Objectives after 2005. There have also been noteworthy developments in the areas of quality monitoring and modelling. It is inevitable that increasing use will be made of advanced techniques in these areas to enable demands for improved environmental quality to be met efficiently.

One of the consequences of the UK adopting a European perspective on pollution control is that a more sophisticated analysis of natural water is required. Considerable political pressure is being exerted on the UK by European partners to change from 'dilution' to 'containment' principle for control of List 1 and List II compounds and to adopt the 'anticipation' principle, which assumes a compound

poses a hazard unless proved otherwise. This stricter control over Grey, Black and, more recently, Red List substances will require detailed and costly monitoring of these pollutants in UK rivers and estuaries. Hanley et al (1991) point out that this will require funding for further research, equipment and staff training. It will further focus attention on the cost for the pollution control measures and for the monitoring to determine compliance and might lead to a stricter application of the 'polluter pays' principle.

The EC propose to establish a European Environmental Agency and European Monitoring and Information Network. This was adopted by the Council in May 1990 and regulations will come into force the day after a location for the Agency is announced which is yet to happen. The agency is designed to provide the EC with the information necessary for developing environmental legislation and will be responsible for the collection, processing and analysis of environmental data. The principal areas of activity will be quality and sensitivity of the environment and the pressures on it. One of the priorities will be WQ, pollutants and resources. With an emphasis on international phenomenon it will seek the co-operation of other Community bodies. It has legal status but not many of the powers such as monitoring compliance and formulating EC policy guidelines (FWR, 1990).

5.13 Conclusions

Prior to the formation of the water industry, RWQ in the UK had reached a grossly polluted state. From this very poor base, quality continued to be problematic during the emergence and consolidation of the industry into the first half of the twentieth century. This formative period may be seen as one in which water quality problems were correctly acknowledged as important by successive British Governments but where legislation alone was unable to produce effective control of water quality

(Hanley et al, 1991). The infrastructure, in terms of personnel and equipment, was inadequate and despite the economic recession RWQ generally declined.

Although the formation of the River Boards was a significant institutional development, it was not until the Water Resources Act of 1963 that legislation gave adequate powers of quality enforcement to these unique river basin entities. This was through the implementation of the consent system and there was a marked improvement in the quality of rivers and estuaries, achieved at the cost of considerable investment. The most dramatic improvements from the initial poor base were achieved prior to the establishment of the WAs, despite the fragmented sewage side of the industry and coinciding with the peak in capital expenditure in 1974.

Despite the undoubted advantages of integrated management, the financial constraints under which the Authorities operated for much of their existence tended to make their period of management one of consolidation rather than improvement, though some progress was made. This period introduced a European dimension into the legislation concerning water quality via the use of European Directives as well as the introduction of COPA.

Prior to the 1989 Water Act, COPA was undoubtedly the most important piece of WQ legislation. Its introduction represented a real chance to make a major impact upon the quality of UK waters. COPA was, however, sufficient for dealing with routine, direct discharges but it offered inadequate control over diffuse discharges such as nitrate leaching. Arguably, it was also compromised in practice and influenced by the interests of dischargers (Royal Commission on Environmental Pollution, 1984; Pearce, 1984).

The financial difficulties of the WAs leading to the delay in implementing part II of COPA and compromised standards, contributed by 1985, to the first decline in RWQ since surveys began. This trend has continued into the private sector period, the effects of privatisation upon RWQ not being known until the next survey conducted by the NRA.

The trajectory of the RWQ issue has been shown to reflect legislation and industry changes although institutional arrangements were not always followed up with adequate legislation to combat pollution. Indeed, where legislation was unavoidable this was not always reciprocated by adequate standards. Throughout the career of RWQ there is the constant theme of conflicting interests in improving rivers: between cultivating industry and enforcing quality standards, economic pressures and public sector capital requirements, between the adoption of absolute quality standards and cost and more latterly, between advocates of regulation who stress a pure view of quality and those upholders of integrated management who take a pragmatic line stressing the relative nature of pollution.

The salience of RWQ to the industry is reflected in the condition of the rivers nationally but has not always commanded a consensus of opinion. The pressures of finance have largely resulted in the sewage side of the industry adopting a less stringent view of quality. This divergence of opinion became an issue in itself under the all-purpose authorities, intensified by the financial restrictions. With privatisation this divergence has now become institutionalised between the NRA and the water companies. Whilst many stretches of rivers still need to be improved, the unit cost of reaching the objectives rises progressively so future improvement will depend on the availability of finance. A reflection still upon the state of the economy and public opinion.

The early major improvements were achieved using a relatively simple approach to consents and quality planning with a lack of publicly stated quality objectives. There is a continuing movement towards the use of increasingly complex quality standards and objectives for water in the environment and for discharge consents. Certainly there is a new direction in pollution control and it is one that is strongly influenced by European policy and this trend is expected to continue. The involvement of government continues to have a marked influence. As Kinnersley concludes on the nature of river management: *Thus one can identify a series of tensions and policy dilemmas as inherent in river basin relationships. The more the river is used for some purposes, the more it has to be recognised as an economic resource with charges for its use as one motivator of constructive sharing, despite its initial character as a free resource* (1988:200).

6. IDEOLOGICAL CHANGE IN THE WATER INDUSTRY

6.1 Introduction

This chapter analyses the nature of ideological development within the water industry from an established constellation of features which had built up prior to integration, through to their transformation by the time of the private sector phase of the industry. The intervening 20 years have proved the most radical in terms of ideological development and change. These changes may be seen to reflect both national political developments and the water industry's response to its own changing status and ownership. This ideological development is most distinctly portrayed by an analysis of the nature of the ideological character of the industry prior to integration and its current character in the private sector. A four-fold typology has been used to characterise the constellation of features which comprise both ideological stances: industry characteristics, values of industry members, beliefs about industry purpose and function and the resulting management style. These are very general features, indicative of the industry as a whole and do not account for idiosyncrasies between individual units. Rather, these features may be conceptualised as modes of shared ideological expression, derived from the evolution of industry characteristics over time.

The pre-1974 industry culture is termed the `Public Health (PH) ideology' after the various 19th and early 20th century Acts which successively changed the industry structure. The current industry culture is termed the Business ideology, reflecting the shared beliefs necessary for operating in the private sector. What follows is an account

of the transformation of the PH ideology over 20 years, demonstrating how the parallel political, economic and industry events helped shape this ideological revolution. Evidence is drawn from interview sources and supporting historical and political writings.

6.2 The Public Health Ideology

The water industry by 1974 had been through numerous structural changes, the chief trend being that of consolidation of the industry. These structural changes were largely incremental in nature as they sought to remedy the various calls for a national policy for water and concern for RWQ. The instigation of IRBM was a unique one and highly innovative for the water industry, both in the UK and abroad. In this sense it represented a recreation for the industry in the creation of very large and powerful bodies. The demarcation of Authorities by natural river basin areas was both practically and intuitively correct. It provided both an indisputable means of harmonising industry practices with their natural resource and answered the twin concerns for greater efficiency and pollution control. Nevertheless there were several cultural features of the pre-1974 arrangement which would prove intractable to the recognition of the greater authority of the new organisations.

6.2.1 industry characteristics

The chief driving characteristic was public sector ownership for almost a century. This had meant a relatively stable environment under municipal control with few stakeholders but a significant history and tradition. A former pollution control officer with a RA recalled his old "sparring partners": *The old city Board water engineers,*

they had a very cushy number. No problems, no worries, no anything. And nobody concerned much about the water supply and everything was nice and quiet...But the same really on the sewage side. In contrast to this stability were the fragmented, small units which comprised the industry: *Prior to 1974 we had a situation where water supply was in the hands of a smallish number of publicly owned bodies...together with 6 or 7 statutory water companies* (former MWB engineer). In effect, these bodies were local in their outlook with purely local concerns which had been the driver for calls for rationalisation in the industry.

The heterogeneity between units was further complicated by the functional splits within the industry. These bodies were functionally distinct in three main areas: clean water, dirty water and river management, which could almost have been two discrete industries and a regulator:...*Prior to '74 of course you've got to think about the drinking water industry and the sewage industry* (former RA manager). These distinct functional units meant a degree of stability in organisational practices spawning their own respective cultures which would become most evident during the reorganisation (see section 3: case study chapters).

6.2.2 industry values

The industry held community oriented values and saw itself as providing an essential public service. Functionally distinct entities meant professionally distinct managers, each versed in their specialism, whether it be sewage, clean water or river management. The management belonged to different professional bodies each mirroring the functional splits: *Water supply engineering had always been*

professionally distinct from sewerage and sewage disposal, which flies under the title of public health engineering. Individuals were seldom members of both the Institution of Water Engineers and the Institution of Public Health Engineers or the Institute of Water Pollution Control. The water supply and sewage disposal undertakings themselves had always been under quite separate management without any of the combined water and sewer departments so common in other parts of the world. Even consulting engineers tended to specialise in one or the other activity (Okun, 1977:107).

Professional allegiances meant managers were engineers or scientists rather than professional managers: *Generally you tended to be a scientist in a laboratory who eventually became a manager of a sewage treatment works... probably an engineer, civil engineer, mechanical engineer, electrical engineer and scientist, that's the general sort of background* (former Water Board engineer). This usually resulted in allegiances to one's profession above the goals of the organisation. As a former Finance Director recalled: *I had been brought up with a professional belief that we held the constant values of the organisation. The politicians came and went and you were a professional. You were not actually embedded in the management, you did not necessarily have to share the values and things of the organisation, you could hold sort of more enduring values of a professional character; which could withstand the short term comings and goings of politicians and policies.*

Many of the predecessor organisations were internationally recognised. This went hand in hand with a great emphasis on qualifications and many water scientists and

river engineers were world experts in their field. As the new CEO of ST found even by the late 1980s:...*culturally speaking advancement and achievement in the organisation was much more about qualifications for the job than how you did the job...And people had to be very well qualified. Not necessarily be motivated to do things...the letters after the name and doctor or whatever else is very important, sort of deep culture for the organisation.*

There was therefore an emphasis on quantifiable inputs into operational practices and the measurement of these was instrumental in determining pay and conditions, as in the water industry productivity scheme which emphasised prescribed tasks and quantified inputs. An Operations Director with long industry experience recalled: ...*it was about values for how many times you turned a valve or cleaned the windows, or swept the floor or brushed the weirs...how long it took you to travel to the job. All the inputs and it was a proxy for paying people more...*

The different functions attracted long-serving loyal staff from several generations. Workers and management viewed the industry as a life long career and manual workers often followed their fathers into the work. A former clerks secretary to the MWB said: *Well old loyalties died hard. When I first joined MWB the great thing was there were a lot of pensioners about who had been company people pre-1904. And there is an old chap I know in Hampton who is 100 now, and his father started work for Southwark and Vauxhall Water Company at Hampton. He was what we would call a pumping station engineer in 1896, followed his father in the job and retired in 1959.* Essentially the values were lifelong service to the public in the cause of public health

and loyalty to one's profession: *You saw people with sewage effluent and drinking it...This used to happen a lot of times in the old days: "this is how good it is". A lot of people were very proud to say this is the kind of thing that comes out* (former Water Board engineer).

6.2.3 industry beliefs

There were strong beliefs derived from public service values which centred on dedication to the community in the cause of public health. These put a primacy on local knowledge, reinforced by maintaining a degree of heterogeneity from ones neighbouring unit (Martin & Woods, 1992). A former divisional manager and corporate strategy director of Thames recalls sewage treatment under LA ownership before reorganisation:...*Each one built its own flagship sewage treatment works, each one probably used a different consultant to design and build it and use different specifications, different gear, different materials, different philosophies about how you treat it. So every town down the road would have a different approach.* In this way operational practices became diversified throughout the industry which were in turn reinforced by the individual cultures of and loyalties to old established Boards and Works. If the purpose of these organisations was to serve the public, this would be achieved by engineering solutions and there were many past achievements to reinforce this view. The logic underlying policy and action had at their core the desire for excellence and technical achievement.

6.2.4 management style

The various Boards' and Works' different approaches to management and practices also reflected their variable access to funds and skilled staff. The PH ideology was strongly linked to municipal management practices in which long lines of management were common. Each Board's own culture reflected the inward looking small scale parochial industry, where the boundaries coincided with the local or county council ones. Management practices themselves accorded with the public administration model. Indeed, even more so than local authorities themselves, as one local authority recruit to the new TWA recalled of its predecessor organisations: *They were very conservative and almost incestuous as far as I was concerned. I never thought local government was that adventurous in its management techniques and practices, but the Met Water Board was out of the Ark...the local government people coming in had sort of survived the late sixties and early seventies and all of the management changes that had been going on in local authorities and found the water industry not touched by any of it.*

As Farnham and Horton (1993) argue, public sector organisations have in common their creation by government to achieve political goals and to support political objectives and policies. It is this political context which is the driving force behind public organisations and is reflected in the ways they are managed. While public organisations are given goals which reflect the purposes for which they exist, in contrast to those of private bodies, they tend to be complex, vaguely defined and often conflicting. The goals of public organisations are also sometimes unattainable. The reasons are identified by Pollitt: *First, there is a need to build and maintain coalitions*

of support... Second, a broadly-based objective is less likely to give immediate hostages to fortune...(and) it is easier to argue that it has been, at least in part, successful ...Third, vague wording...(or) woolly wording is...attractive in the sense that it provides endless opportunities for defence, evasion and apparent innovation during the process of political debate (1990:121).

Public officials, unlike private sector managers, are also faced with frequent changes of goals as either political pressures force a new negotiated order or changes in political leadership result in new priorities. In the water industry the goals were long term planning, big projects and engineering solutions to public health problems. Historically, these goals were often thwarted by public expenditure cutbacks and it was only the larger entities on the drinking water side which faired best:...*in the past the dirty side of the business had rather been left to one side. It was the classic thing: "no votes in sewage" it was basically a local authority based operation. There were not the consent standards we work to now* (Water Services Manager).

The division of responsibility is a consequence of political considerations rather than logic, economics or organisational principles. Ultimately public officials are accountable to the public which they serve. Public officials are expected to act as stewards of public interest and the public purse. In so doing they operate within a strict legal framework. As a result, the dominant perception is that public organisations are administered while private organisations are managed.

Keeling (1972) listed the nature of administrative systems which have been set against respondents views:

1. Objectives tend to be expressed in very general terms in administrative systems and are rarely reviewed or changed:...*there was no long term policy as far as they were concerned. And they were professionals...coming from local government background.*

2. The main criteria of success for administrative systems are avoiding mistakes and getting things right: *There was a great feeling in the organisation that everything had to be done right. And very little questioning as to whether it needed doing at all...*

3. The economical and efficient use of resources are secondary tasks: *They had that local government, service to the public, profit of no consequence, money while you accounted for it, on a year by year basis.*

4. Administrative systems tend to have rule cultures where responsibilities are precisely defined and there is limited delegation; structures tend to consist of long hierarchies and there is a tendency to caution and to refer problems upwards: *A curious lack of responsibility for things. Decisions were almost derived if I can say from committees...And huge numbers of decisions came to the Chief Executive's desk...quite sort of cultural problems about decision making and a big cultural problem about delegation.*

5. The role of the administrator is more one of arbitration and rule interpretation:...*a combination of lots of disparate groups of local government, public service and public spirited people, professionals who deemed they had a right to practice their profession in the organisation, who were fighting for power in many cases as to who had the supreme hand when it came to policies.*

The key features highlighted by Keeling are that public sector managers have mechanistic structures with long chains of command and narrow spans of control. They are heavily bureaucratised and foster defensive and passive behaviour. Role and status are routinised to constrain discretion. The criteria for success in public administrative systems are mistake avoidance, satisfying public expectations of equity and fairness, averting political controversy and achieving consensus, conformity and consistency in practice.

6.3 Preparation for Reorganisation

Thus on reorganisation the PH ideology was dominant. It was the fragmented nature of the industry, particularly the sewage side and the consequent functional splits between personnel, which led some industry members to show resistance to reorganisation. As Okun writes of the differences between the attitudes of those employed in 'clean water' compared to those in the `dirty water' side of the business: *In contrast to the note of affirmation given by the British Waterworks Assoc, the Institute of Water Pollution Control members at their annual conference expressed grave concern over the reorganisation and prophesised that few from among their number would be given leadership positions in the new organisations and that their collective views would not be important in the reorganisation* (1977:102). The 1974 reorganisation was therefore undermined to some extent at the outset by the industry's own cultural history and traditions. This will also be evidenced most clearly in the case studies of section 3.

6.4 The Failure of the 1974 Recreation

The reorganisation in 1974 was largely instrumental in changing some fundamental industry characteristics. The establishment of large regional bodies introduced a measure of standardisation as well as a regional focus which aimed to change the formerly stable local units into a force for the national good. In this sense the industry still sought long-term engineering solutions but could now apply these to a greater mass of the population. The industry characteristics which could not be changed overnight were the history and culture of local units, despite the introduction of a wider body of stakeholders and the destabilising influence of central government control. The goal of homogeneity was slow in realisation, essentially because the values, beliefs and management styles were virtually unchanged. This produced a resistance to cultural change which would recognise the hegemony of the newly formed WAs. This resistance was to create an inertia to integration proper for almost 10 years. There were a number of reasons for this, both internal and external to the water authorities. Internally these may be classified into personnel, structural and management style issues of the new organisations which served to preserve and promote the prevailing ideology.

6.4.1 personnel

Although government had recommended multifunctionalism as a way to rationalisation, the larger WAs were prevented from going completely multifunctional by the large monolithic bodies they had inherited. It was no surprise, therefore, that many of the elected members and staff were drawn from these old established bodies. Of the chairmen, five had been associated with river authorities, three with water

undertakings, five with county councils, one with industry, and only one had no identifiable experience in water or water-related activities (Okun, 1977:107). The Chair of ST had served on a River Authority since the early 1960s and was made chair of the Trent River Board in 1965. Thames' Chairman was an engineer by training, had been a member of a local county council and closely associated with the flagship Mogden works during the 1960s which had been responsible for a major clean up of the Thames. He had also been a member of all the large predecessor agencies. Thus key personnel brought with them the culture and knowledge of the predecessor organisations.

But questions had arisen concerning the qualifications of those likely to be selected as chief executives. For example, a leader (editorial) in *Municipal Engineering* (1973) asked: *How many of the chief executive officers of the new regional authorities will be engineers?...It was cynically suggested...that the chief executive could come from any professional discipline provided that he was a lawyer.* As it turned out, of the 11 chief executives initially appointed, 7 were engineers and all but 2 who were recruited from the GLC for the NWC and TWA, were from within some element of the water industry, 4 being from river authorities and 3 from water supply undertakings (Okun, 1977:107).

Other doubts had been expressed about the feasibility of personnel from the dirty and clean sides working together in multifunctional units. At a Water Industry General Management Programme representatives of the local authorities responsible for sewerage and sewage disposal and of the river authorities, were invited to exchange

views for the first time on the new WAs. Here concerns were expressed about the relationships between the 'clean' and 'dirty' personnel. Some of the water supply personnel at the meeting expressed the fear that contact with the engineers from the sewerage and sewage disposal field would 'contaminate' them. Typhoid fever might be carried from the sewerage personnel to the water pipes as both these services would be within the same organisation. In general, the feelings at this first multidisciplinary session were negative, with reservations articulated about the likely success of reorganisation (Okun, 1977:126).

The backgrounds of individuals appointed to the top management positions in the WAs affirmed that the regrouping of water supply undertakings had created opportunities for engineers from the water supply field to occupy positions of high technical and management responsibility, not open to personnel from the highly fragmented sewerage and sewage disposal phase of the industry. Thus, amongst the 30 executives responsible for both water supply and sewerage and sewage disposal, almost all were drawn from the water supply phase of the industry, and only two could be identified with sewerage and sewage disposal in their previous professional employment (Okun, 1977:108).

The dominance of the water supply engineers in the hierarchy of the WAs continued even into the lower posts. Of some 70 positions 80% were drawn from among the members of the Institution of Water Engineers. Of all the instances where a division was responsible for operations in sewerage and sewage disposal plus water supply or river management, in only one or two cases had the manager been selected from the

field of sewerage or sewage disposal. In almost all other instances the managers were drawn from water supply undertakings or from the river authorities. The cultural attachment to their predecessor bodies was to lead to poor relations between directors and departments, reflecting the different functional specialisms and cultural orientations to providing a service. A new recruit to the planning department in TWA at the time stated: *Their styles were very different, and their culture within their bits of the company were very different. So within planning we were not interested in hierarchies and reporting lines...Whereas engineering was very much dominated by a traditional public service kind of organisation...My metaphor was a team of carthorses all pulling in different directions on something in the middle of them...*

6.4.2 structure

The fragmentation of the dirty water side of the industry led to delays in establishing provisional management units or divisions. Separate working parties to facilitate the orderly transfer of functions to operating units had been established in 1972 for all three functions. Such difficulties and delays that were to occur with the working parties occurred almost exclusively with those for sewerage and sewage disposal: *The complications resulting from trying to unify a great many small, if poorly organised services into comprehensive management units in a matter of months, as compared with the regrouping for water supply which took place over almost 30 years, led to many delays* (Okun, 1977:113).

The extremely short time frame of 8 months for such extensive organisational change had ramifications throughout in the establishment of WA structures. It had become

clear that for a considerable period, possibly three years, the operating units (divisions) would have to carry on as far as possible under established procedures. These internationally recognised organisations had existed for many years and were perceived by the industry to provide a first class service. The real worry was that these bodies had been very efficient and given the short time frame of eight months, change might endanger the smoothness of changeover on 1 April 1974. Thus the old established and largest bodies became single purpose divisions in the largest Authorities during this period of change. As of reorganisation day, of the ten WAs, three planned to begin with their divisions as multifunctional entities, three hoped to approach multifunctionalism gradually, one viewed multifunctional operations sceptically and one had not yet determined, in principle, how it would move (Okun, 1977:138-9).

In many cases divisions carried on almost entirely as they had as predecessor organisations. This is in effect what happened with the larger WAs like Severn Trent and Thames. Their inherited monolithic bodies were retained as single functional entities. This led to a situation where divisions assumed great power away from the centre and carried on with their own individual cultures and practices almost untouched by reorganisation: *The managers were actually stronger than the managers that were managing them. It is the old syndrome that if you go from engineers to chief managers, they may not necessarily be good managers...They really did not have the management skills to get a grip of it. So the organisation was led by the divisions which went whichever way they wanted* (Planning and Support Manager).

The Board which oversaw the whole structure paralleled the local authority style of arrangement and served to preserve the values and beliefs around municipal style focus and management. A former finance officer at the time said: ...*They promptly set up a committee structure with chairmen...so the relationship between the officers and the members was exactly one I was familiar with in local authorities...and with all the sort of subtlety that surrounds that relationship as to who was really in charge and where the direction comes from.*

6.4.3 management style

The structural arrangements in the early years after reorganisation were largely responsible for the perpetuation of the administrative management style. Very often local interests were pursued instead of looking for solutions for the greater good of the region. Added to this, the historical low level of interest in the industry by LAs, meant that many of the members were elderly or had previous experience with the predecessor bodies. It was not seen as a career move to sit on a WA board and hence the collective managerial abilities were not high. Rather the board was politic managed: *So it was not exactly a very starry bunch...Labour politicians and Tory politicians and they tended to sort of go on their party lines and we had a good collection of gentleman farmers and do-gooders, as well as quite good special interest people...CBI nominees would come along and try and say and do business like things and find himself totally at sea in this mass of conflicting backgrounds and cultures and things* (former Finance Director).

The functional loyalties of many of the executive served to maintain traditional boundaries between departments with a consequent lack of communication. All in all management discretion proved to be small, with much time spent on committee relations and too many tiers of management: *Certainly a flavour of all the worst things about local authorities...And the level of decision-making that was taken by sub-committees of the Board. Absolutely incredible. Even down to members of sub-committees hearing disciplinary panels...*(Sewage Operations manager). Executive directors were used to playing political games and networking was seen as a vital part of management. A former divisional engineer listed the various contacts: *Working with the committees, working with the Authority. Working with and understanding the appropriate officers at National Government level. People at the DoE, the sponsoring Ministry...*

The Chair of Severn Trent recalled his impression of the executive management when he arrived in 1983 as still very much in the LA mould:...*a high level of intelligence, a high level of qualification, a high level of ability and certainly devotion to the business...But...an outlook which was informed by their background and their previous activity very much.*

It was very often the personalities within divisions which promoted the prevailing ideology. These individuals had long-standing careers within the industry prior to 1974 and were often experts in their field. They were instrumental in maintaining PH practices and styles of management. A former water engineer for a private company who joined STWA in 1974 recalled:...*I think at that stage it was a personality issue.*

*And some of the divisional members had been city engineers previous to 1974 and they were really hard core...*His overriding impression was that the three tiers of management - the Board, executive and divisions - were bureaucratic but had little consensus.

The full benefits of IRBM were slow to be realised by the difficulty in striking a satisfactory balance between HQ control and divisional autonomy. Reflecting on this convergent period, one former director with a public sector background described the inherent local government culture as: *Financial administration, strong on inputs, weak on outputs. Customers dealt with in local authority terms "we know best what the customers want". Efficiency, economy buzzwords. And we were achieving nothing.*

The authorities remained very introspective during this period. Kinnersley attributes this in part to their tradition: water supply and sewage disposal managers have little inclination or perhaps opportunity to be in frequent contact with their customers. Also to the integrated structure itself, having control of almost all aspects of the sharing of water, the need for external dialogue may have seemed less. This effect became more marked as increasingly the authorities felt constrained by Whitehall imperatives: *If, as a water professional, you are unable to do much of what you think needs doing, public dialogue can be increasingly awkward and uncongenial* (Kinnersley, 1988:110). He also adds that the representative membership from local councils in the governing bodies of the authorities was not very effective in promoting the public profile of the WAs.

6.4.4 external issues

The internal problems were compounded as much by economic and political events as they were by structural relationships between the industry and external bodies. The regionalisation of the industry had placed the new WAs under control of the Treasury via the DoE. This introduced yet another tier of networking relationships to cultivate. Indeed it has been suggested that the lack of a strong central body to give the industry an identity was one of the factors contributing to the 1974 reorganisation (Thorpe, 1975; see 4.7.2). Individual WA executives spent much time in negotiations with government departments which could have been handled as industry wide issues with a more concerted and united approach.

The dire economic events of the 1970s which led to the moratorium on capital expenditure sapped much of the enthusiasm from the industry. Personnel felt held back from achieving the goals of reorganisation, particularly in the late 1970s : *It brought a lot of professionalism and expertise. It brought in regional standardisation. But it eventually suffered from lack of cash and to some extent fudging of objectives within itself...I think it worked quite well in the early years. It began to fall apart under pressure (a) of capital restriction and (b) perhaps this need to compromise all the time* (Planning Director). Also the financial restrictions only served to accentuate internal rivalries, according to one former divisional manager: *Management spent more of its time fighting each other than trying to manage things. But the problem came when money was tight...*

Indeed, it would be the very policies of the Labour administration, in response to global and national economic events which would precipitate a new era of politics with the election in 1979 of the Tory party under Thatcher (see 4.8.1). As Tony Benn makes clear in the foreword to his diaries of the years 1973-76: *These years facilitated the entrenchment of monetarist policies when the Conservatives returned to power in 1979, and some of the militarism can be traced back to the decisions of a Labour Administration...the victory of world bankers in the IMF over a Labour Cabinet clearly marked the beginning of what subsequently came to be known as 'Thatcherism', for the adoption of money supply targets was an integral part of the banker's demands...*(Benn, 1989:xi-xiv).

In short, though there was a change of administration in 1979, which was clear and sharp in electoral terms, there was a continuity in thinking about central questions which stretched from Labour to Conservative rule, one paving the way for the other. Benn argues that the post-War Labour Government of Clement Attlee was able to carry through its social revolution because the planning mechanisms it had inherited from the war-time coalition were at hand to deal with the task of reconstruction, and a war-weary public retained a sense of community which made it into a willing partner in the establishment of the welfare state and the rebuilding of an industrial base. But the public sector institutions chosen for that purpose lacked an essential democratic element and came to be seen as centralised and bureaucratic and hence increasingly unacceptable to post-War generations.

6.5 The Erosion of the PH Ideology

The erosion of the established ideology began with the change of government in 1979 and the introduction into British politics of the ideology of the New Right. The introduction of managerialism into the public sector would divert the industry goals from engineering to financial and performance measures. This was facilitated further by nationalisation of the water industry which brought more Whitehall control and introduced market mechanisms into managerial practice. But most importantly, a change in ideology could not have been effected without the introduction of a new calibre of management, imbued with private sector ideology. The introduction of outsiders to the boards would serve to undermine the administrative management style which had persisted despite reorganisation. In particular, it was the new Chairman of Thames, who in exposing the contradictions in government policy, provoked the backbencher revolt which marked the instigation of privatisation of the industry (see 4.9.7). We turn first to an analysis of the antecedents and various manifestations of the New Right ideology.

6.5.1 the New Right

The New Right critique of the post-war settlement is an expression of economic liberalism, anti-collectivism and elements of social authoritarianism. It draws on the works and ideas of economic liberals such as Friedman (1962) and Hayek (1944, 1973), public choice theorists, such as Buchanan (1975), Niskanen (1971) and Mueller (1979), and political economists such as Lindbloom (1977). The influence of American thinkers on the New Right has been dominant, with the main outlets of New

Right ideas in Britain being the Institute of Economic Affairs, the Adam Smith Institute, the Centre for Policy studies and the Salisbury Review.

The meso objectives of the Conservative government are most pertinent here, as Farnham and Horton (1993) elucidate, these were to revitalise private enterprise, increase the competitiveness of British businesses and strengthen the right to manage. These objectives and most notably the latter, would leave their mark on the water industry as the decade drew to a close; manifested in what has come to be known as the New Public Management.

The introduction of financial controls and performance aims served as part of the package of managerialist ethics injected into the public sector, as well as bringing the industry closer to Whitehall control. In this way the repayment of debt could be couched in terms of economy and efficiency whilst also acting as indirect taxation. However, the focus on costs and efficiency led to an anomalous situation within the nationalised WAs where the notions of capital and revenue were quite different from that of industry. As the newly appointed CEO of STWA found when he arrived in the late 1980s:...*tightly cost controlled on rather sort of narrow basis. There weren't monthly accounts for instance ...There was a profit and loss account produced but really only looked at once a year. The business was cash managed. We were working to the amount of money that the government allowed us to spend during the year...But nevertheless we had to generate a cash surplus...Because you had to raise all the cash in the year in which you spent it...Capital was actually free...Numbers like depreciation were pretty theoretical...We weren't allowed to borrow more money...*

The nationalisation of the water industry in 1983 removed local authority involvement and the smaller Boards introduced Chairmen and members from the private sector which would facilitate the importation of managerialist orthodoxies. The Deputy MD of ST: *People who were used to running companies and who were looking at much sharper strategic planning, much sharper accountability and at achieving greater efficiencies in the organisation, stripping out some of the tiers of management.*

The micro objectives of Conservative governments included optimising consumer choice and consumer sovereignty in the marketplace, freeing individuals from the 'dependency state' and motivating individuals to take personal responsibility for themselves and their families. These objectives were at the heart of the government's economic and social strategy with its commitment to individualism (Walker, 1990: 30-35). For instance, the establishment of consumer consultative committees in each WA paid lip service to the optimisation of consumer choice and sovereignty in the marketplace (Kinnersley, 1988:113-14). Also, the primacy of personal responsibility has echoes in the subsequent human resources policies adopted by the privatised water companies.

The tenets of market individualism within an enterprise culture were stressed by the incoming Thatcher government in its first budget statement in Hansard of 1979: first, the strengthening of incentives, particularly through tax cuts; second, greater freedom of choice by reducing the state's role and enlarging that of the individual; third, the reduction of the borrowing requirement of the public sector which leaves room for the

rest of the economy to prosper; and fourth, through firm monetary and fiscal discipline bringing inflation under control and ensuring that those taking part in collective bargaining are obliged to live with the consequences of their actions.

The tactical means by which successive Conservative governments attempted to implement their strategic objectives consisted of three main sets of measures. First, economic measures were designed to increase market competition, foster enterprise and create a 'business' culture. Another initiative was to reduce the size of the public sector. Various means of 'rolling back the frontiers of the state' were attempted. These policies had the triple goals of transferring the supply of these services to the private sector, providing them through the market, or at least quasi-markets, and cutting government expenditure. Privatisation had the further advantage of raising additional revenue from the sale of state assets, so avoiding increases in general taxation to fund government expenditure. These activities were associated first of all with monetarist and subsequently, supply side economic policy.

The second set of tactical measures used by the New Right was to create a strong state that could carry through its policies without political constraint from either local authorities or powerful pressure groups. Legislation was used to strengthen the role of central government and remove or limit the powers of local authorities. This particularly impacted upon the water industry where nationalised industries were required to prepare themselves for privatisation from 1983 onwards. As Kinnersley (1988:113) notes:...*with the loss of local council representation, the authorities lost all the allies who might have helped them to sustain some independence of*

Whitehall...At national level too, the Water Authorities Association became more of a club, which did not favour more active co-ordination of outward-facing policies among the 10 authorities.

The third set of tactical measures used by successive Conservative governments was linked to the goal of popular capitalism: *A term applied to a variety of policies aimed at widening property ownership and consumer choice. It sought to empower individuals by weakening their attachment to the Welfare State, to undermine their belief in the concept of 'society' and to raise public consciousness of the ideas associated with the 'enterprise culture'* (Gamble, 1988:138). Widening property ownership was facilitated by a number of measures, including denationalising major public industries, with proportions of the 'new' shareholdings reserved for individual shareholders (as in the slogan: '*you too can be a H_2O owner*') and encouraging employee share ownership schemes and profit sharing in the private sector. The means used to widen consumer choice focused on advocating the primacy of markets in both the private and public sectors.

6.5.2 the new public sector management

Various measures were introduced into the public sector as part of the New Right ideology to decrease the power of that sector and to inject market mechanisms of efficiency and effectiveness into management. This evolved into a package of reforms which came to be collectively known as the New Public Management (NPM). The rise of NPM since 1979 is one of most striking international trends in public

administration (Hood, 1991a; cf Hood & Schuppert, 1988; Dunsire & Hood, 1989; Dunleavy, 1989).

The origins of NPM are conceptualised as a marriage of two different streams of ideas, the 'new institutional economics' and 'managerialism' (Arrow, 1963; Niskanen, 1971; Ostrom, 1974; Merkle, 1980; Pollitt, 1990; Martin, 1983). Why NPM found favour is discussed at length by Hood (1991a) who sees it as a response to a set of special social conditions developed in the long peace in developed countries since WWII, and the unique period of economic growth which accompanied it. (For a review of the conditions which may have helped to precipitate NPM see Tocqueville, 1946; Peacock, 1979; Melzer and Richard, 1981; Bell, 1973; Piore and Sabel, 1984; Jessop, 1988; Mills, 1986; Hood, 1990b:206; Hood and Schuppert, 1988:250-2).

NPM is shorthand for the set of broadly administrative doctrines which dominated the bureaucratic reform agenda in many of the OECD group of countries from the late 1970s (see Aucoin 1990; Hood, 1990a; Pollitt, 1990). Seven overlapping precepts appear in most discussions of NPM. Not all seven elements are equally present in all cases nor fully consistent because they do not have single intellectual provenance. At least 5 are pertinent to the UK public service and in particular the water industry:

1.Hands on professional management, meaning active, visible discretionary control of organisations from named persons at the top 'free to manage', is justified because accountability requires clear assignment of responsibility for action, not diffusion of power.

2. Explicit standards and measures of performance, meaning definition of goals, targets, indicators of success, preferably expressed in quantitative terms, especially for professional services (cf Day & Klein 1987; Carter 1988) are justified because accountability requires a clear statement of goals; efficiency requires a 'hard look' at objectives.

3. Greater emphasis on output controls as resource allocation and rewards are linked to measured performance; the breakup of centralised bureaucracy-wide personnel management. These are justified because of the need to stress results rather than procedures.

4. Stress on private sector styles of management practice and a move away from military-style 'public service ethic', greater flexibility in hiring and rewards; greater use of PR techniques. These are justified by the need to use 'proven' private sector management tools in the public sector.

5. Stress on greater discipline and parsimony in resource use in cutting direct costs, raising labour discipline, resisting union demands, limiting 'compliance costs' to business. These are justified by the need to check the resource demands of the public sector and 'do more with less'.

Some of the tangible outcomes of NPM were performance indicators and the Tory privatisation programme.

6.5.3 performance indicators

PIs were very much the fashion of 1980s, they were embraced at the highest levels of government and promulgated throughout the public sector (Carter, 1991). The shift of interest from the traditional focus on inputs to outputs was partly because the

government needed to find out what departments were actually doing and partly because of the overriding concern to control public expenditure: hence the obvious attraction of a system that emphasised outputs rather than defining all improvements in terms of inputs. The government was also anxious to improve managerial competence. The ascendancy of the 'three Es', economy, efficiency and effectiveness (a model couched in the language of private sector financial management), was intended to increase central control over service delivery as much as it was to cut costs, although the two were inextricably linked (Carter 1989). This is confirmed by the current Quality Assurance Manager of ST Water: *I think what became important as the mid-80s gave way to the late 80s were things that governed costs and containing costs, efficiency, priorities, levels of service. And the concept of customer became an increasing focus.* The precise definition of economy, efficiency and effectiveness became an industry in itself (Beeton, 1988; Flynn et al, 1988; Levitt and Joyce 1987; Pollitt, 1986 inter alia).

Pressure came from another source too, in particular, parliamentary committees had repeatedly demanded a currency of evaluation that would increase ministerial accountability (Public Accounts Committee, 1981; Treasury and Civil Service Committee, 1982). This build-up of interest resulted in the Financial Management Initiative (FMI) which emphasised that managers at all levels in government should have: *A clear view of their objectives; and assess, and wherever possible measure, outputs or performance in relation to these objectives*; a principle that made it essential to develop: *performance indicators and output measures which can be used to assess success in achieving objectives* (PM and Chancellor of the Exchequer,

1983). The most obvious manifestation of this clarion call was an epidemic of PIs in the Public Expenditure White Paper: multiplying from 500 in 1985 to over 2000 by 1988 (Carter, 1988).'

6.5.4 the government's privatisation programme

The government's manifesto did not use the term 'privatisation'. Indeed, as far as most authors are concerned privatisation was not a consistent, coherent policy developed in opposition and carried out in power (Marsh, 1991; Jackson, 1985:17; Mitchell, 1990:17). The Conservatives did come to power with a number of specific proposals (Young, 1986) which could be considered aspects of privatisation but these were dwarfed by the emphasis placed upon monetarism.

Of the many New Right proposals, privatisation in its many forms was gradually extended and internal market mechanisms became the centre-piece of major pillars of the state sector, such as in health and education by the early 1990s. As the events leading up to privatisation of the water industry show (4.10.6), there is little evidence that the Conservative government had a blueprint or a strategic plan which it consistently followed through. There is more evidence to support the view that its approach was incremental and pragmatic and that its policies unfolded as circumstances and opportunities permitted, or as failures and problems called for new responses. What is clear is that New Right ideas and values informed the strategic policy choices and implementation programmes which the first Thatcher government and its successors pursued.

The privatisation policy grew so much in its second term on two accounts (Marsh, 1991). First, the impetus towards privatisation came from the government not from the electorate (McAllister and Studlar, 1989). Second, the government embraced privatisation for political rather than economic reasons. As Brittan argues (1984:110), selling public assets was politically much easier, and more popular, than cutting public expenditure. In addition, during its first term the government suffered a number of disappointments with its economic policy; unemployment rose rapidly, the recession deepened, inflation increased, manufacturing output declined and interest rates rose. Most embarrassingly, the money supply figures grew consistently faster than the government's plans, with public expenditure growth being most marked in agriculture, industry, trade and employment and social security. Even when inflation began to fall towards the end of the first term, this fall owed nothing to the control of the money supply, which was still rising (Whiteley, 1985).

It was not surprising that the government seized upon privatisation as an alternative way to control the PSBR, given that the proceeds from such sales are treated as negative public expenditure and thus reduce the PSBR. In addition, as Moon et al (1986) argue, the deterioration of relations between Whitehall and the nationalised industries, particularly after the election of Conservatives, also provided an incentive to privatise these industries. By the end of 1985 there had already been 14 privatisations (Appendix 6.1), although the Government's commitment to a general policy of privatisation had not previously included water (Carney, 1991a).

The government's privatisation of BT without ensuring effective competition and the substantial change in aims in relation to privatisation, particularly the emphasis on political motives, indicate the inconsistencies and contradictions in the policy. Indeed, the initial contradiction of intent with regard to water privatisation and the subsequent shambles made of the first water privatisation proposals were indicative of little policy coherence.

6.6 The Impact of Change and Cultural Resistance

The 1983 Act served to change industry perceptions of their status. The then regional performance measurement manager of STWA recalls: *It was seen as a step up...we moved into the slightly bigger school alongside British Gas and Telecom and the electricity industry. It was viewed favourably within the company and probably within the industry as the logical way to go...We were pseudo-nationalised.* The impact of Chairmen with private sector backgrounds was highly significant, particularly in Thames: *Roy Watts commandeered and - that was the start of a major attitude change...the local authority way of doing things is such a difficult way...You are actually adding a very great sort of political agenda to something that by and large isn't political* (former Regulation and Planning Manager). And at Severn Trent: *John (Bellak) introduced a number of thoughts and concepts. He was the one who pushed marketing as an idea. We'd never believed you could market water. It was there and people knew what it was...But he brought in a lot of genuine, business commercial-type thinking...into the Board* (current Director of Services).

The dismantling of the PH ideology was both sudden in the changes wrought by nationalisation and slow in permeating throughout the industry. Pockets of resistance were inevitable as people felt threatened by the new managerialist orthodoxy. One of the main effects of the smaller Board was to give the executive more freedom to manage. Although recognised as needed, many senior managers felt anxious about the new freedom, as was the then Director of Finance for TWA who described it as: *A seismic event. And the culture change that was triggered at that stage was key. It hit me particularly hard because I had always grown up in the local government culture...And Roy Watts came along and said no. The Board is not there to set policy, to take decisions...This is your responsibility to set the direction of the organisation...You take ownership of the management of the business. Now the whole of my upbringing had been not to take ownership or management of the business - so the requirement on me was - horrendous.*

Indeed, the changes also involved profound shifts in ideological values for organisational members at all levels, as a former finance director recalled: *I had been schooled in my professional training to hold these values...And it was not just finance, I mean the engineers, if anything had an even more deeply ingrained culture. And the scientists...But the others had even more defensive sort of culture.* For instance on the issue of risk, water was traditionally a 'no risk' industry which now sat uneasily with the new management principles:...*the culture was very much not a managed risk...but the managers have to manage risks in their judgements in the way they operate. So we tried to make that distinction and it was a learning process for us...trying to switch*

from the older style of managers really just being administrators to giving them freedoms and the same competence as managers (Personnel Manager).

Each year when the WAs had to submit their corporate plan to the DoE the Treasury people would trim their budgets. Chairmen became increasingly disillusioned with what they perceived as rigid government control over capital funding. The Chairmen of both Thames and Severn Trent started to become influential in changing the relationship between their Authorities and the DoE. Roy Watts eventually turned this into a campaign in which Thames was made into the champion of the consumer, fighting against government plans to put up water charges. Unlike the ambivalence and in some cases outright opposition of the other WAs, there is evidence to suggest privatisation had been on Roy Watts' agenda from his arrival. He has been described as:...*A totally single-minded man. A lot of charisma in terms of leadership and visionary and quite simply, always said government is a bad owner, cannot run business, this is a business we have got to make it efficient, if we make it efficient we move into the private sector...Also we can diversify, can build on our water base and by the year 2000 be like IBM. Those sort of real visionary things* (NRA Manager Thames Region).

Roy Watts' strategy represented the first proactive move for change from within the industry since reorganisation. In this sense, he emerged as a maverick who was astute to the government's political agenda and could transform the New Right logic of reducing the PSBR and supply side economics, into a case for privatisation of a previously unconsidered industry. However, the final privatisation proposals which

included a river regulator had less appeal for Watts who wanted to privatise all functions. This was an arrangement favourable to and influenced by John Bellak, Chairman of STWA who, while not in the media eye over privatisation, did have an important influence: *Although Roy Watts got a lot of the credit for pushing the concept of privatisation...I think John Bellak was the one who persuaded Nicholas Ridley that privatisation of the industry could work...was talking to Nicholas Ridley behind the scenes... They seemed to get on very well...John Bellak deserves a lot of the credit for identifying the mechanism by which the industry could be privatised...* (former Secretary to the Executive group STWA).

6.7 Dismantling the PH Ideology

The dismantling of the PH ideology became pronounced as the preparation for privatisation gained momentum in the years 1987-89. The privatisation process had two main strands, the preparation for wider enterprise activities and ensuring the availability of adequate finance for all the capital investment necessary as private companies. The main issues centred around developments of long term strategies for investment and the concern for compliance with standards in drinking water and sewage. WA annual reports show improvements in meeting financial targets and reduced operating costs as a result of efforts to rationalise the structure. At the same time the government constraints were falling away. The main activities were in drawing up asset management plans and surveys on customer profiling.

Despite the changes of the previous four years there was still apprehension within the organisations and pockets of resistance to the proposed changes. The current

Personnel Manager for Thames recalls: *I think the majority of the people who worked for us thought it was a bad idea...It was a big unknown, it required a lot of change, uncertainty at one level. A lot of people who had worked in the water industry for a long time still had values about public service...*

This required a drive from executive management to effect change and build the capability of management. New Chief Executives were brought in from outside for their business acumen and city presence to drive through the privatisation process. For instance, Severn Trent's Rod Paul: *Brought in with him a whole set of management sector practices involving team working, and a much stronger focus on people...also the word marketing which we had not really recognised previously in a utility. And he also brought an increased focus on technology. These are the things which I believe caused us to transform* (MD ST).

However, not all managers could accept the new philosophies; many left and were replaced by outsiders. This was particularly so for TWA. The rivers and regulations units, set up in advance of privatisation, absorbed many dissident members who wished to remain in the public sector. Also, there were still signs of a significant lack of rationalisation or uniformity of practices throughout the industry which had to be rectified. New projects were initiated: a one stop customer shop in Thames, centralised engineering functions, single warehouses central to their regions, a programme of training all management to a common standard and the same with supervisors in operations. Much investment went into forecasting models. As part of the new ethos WAs developed creeds or principles by which they operated.

This was also a great period of structural change. In Thames the overall message went out that change was an integral part of being in the private sector:...*there were the big reorganisations...the message in Thames was basically "well you look outside at other companies, they are not standing still. They are reorganising probably twice the number of times that we are."* (former Finance Director). In STWA the number of divisions were halved and the support functions merged. The operations functions were split up into 15 districts to provide greater contact with customers. One manager saw this as the beginning of the focus on customer service: *I think it was a belief, it was the first dawnings of the fact we were a customer service business and I felt we needed more local ownership. And the concept was that the district manager would be the local Mr Severn Trent.*

There is also evidence to suggest that the prospect of privatisation served to energise and motivate individuals: *We used the two years between '87 and '89 very productively. And it was all about change management* (former Finance Director STWA) - not least because of the prospect of capital availability: *At that stage what we now call the utility business had been wondrously changed...there was going to be capital...It's nice to be given a view of the tasks to do...Things to be improved, money coming on stream, that energises the organisation in a way that continuous retrenchment can't* (former MD Thames).

Work on the prospectus was important as it elaborated the framework for spending over the next 5 years and then 10 years. This was a document which WAs knew they were going to be measured against and therefore had to get right. It also had to be in

the right format to enable the organisations to deliver the outputs that were needed post-privatisation.

The impact of privatisation was swift in terms of new responsibilities despite the preparation period. As the new CEO of ST described the change-over: *We moved from one direction to outputs to achieve. And just flop, nothing gentle about it, it just happened...for those at the top it was a switch. I mean nothing gentle about the cultural change. One day you were and the next day you weren't. Day one you were nicely comfortably thinking our works have failed what do we do about it. The next day and are they going to prosecute us for it? That's a slightly different view of the world.* However, the change in ideology had been inexorable and significant: *Before '89 we had already moved quite some way towards the internal model that still applies, so there had been a change and a lot of emphasis to change our attitudes to our employees...so in one sense the flotation date passed without it being a dramatic event* (former Corporate Strategy Director).

6.8 The Business Ideology

The transformed ideology of the water industry may now be described in terms of the four-fold typology at the beginning of this chapter in contrast with the PH ideology of 20 years previously. The 10 geographical boundaries remain unchanged (except in cases of minor acquisitions of water supply companies), but the management processes within have changed radically. That is not to say that there is wholesale

acceptance of the new ideology, but the change has been irrevocable and there is every sign of more change to come.

6.8.1 industry characteristics

After privatisation the industry had been sold into the stock market as 10 regional entities and the process begun in 1973 was finally complete. The regional bodies had finally gained an identity as private companies with all the financial freedom and responsibility that this entails. The industry characteristics now present a stark contrast to those which had informed the PH ideology prior to 1973 and which had persisted into the late 1980s. The acceptance of the regional entities as companies has erased forever the small municipal identities with their histories. Thus in the private sector, the industry has very little history to draw upon and many of the personnel which promoted the PH ideology have gone:...*none of the people in ST who I would count as among the successful worked in the water industry when it was a small business. Because they all went. So all of them have grown up in the industry...They don't have any allegiance to any previous system...they've nothing to do with Birmingham City Water Department* (former Finance Director).

The individual companies are now more heterogeneous than before as each must compete with the other according to the regulator's comparative competition. All have now devised individual management policies, employee wages schemes and training and financial management packages. As such, the goals of the companies have changed from operational excellence to ones of profit motive, compliance with regulations and positioning in relation to the competition: *Everybody thinks that*

public sector companies don't focus on money. That's all they focus on, rather than actually the combination of money and output. And increasingly we are focused on outputs: the outputs of customer service, quality and the intermediate outputs around quality of our business processes as well, which really is what drives efficiency (MD STW).

The focus of the companies is now firmly regional, the many changes to the divisional structures having done away with parochial rivalries and interests. There is also an international outlook in terms of offering utility services abroad. These wider and pluralistic concerns in the private sector make for a turbulent environment which is now accepted by managers, who under the old culture operated in defiance of change. Now change is a permanent part of organisational life in response to the environment. This has of necessity made for more instability in the structural arrangements which also serves to dilute the building of power bases. Thus change has become a way of managing according to the Chairman of ST: *I suspect that there is only one simple secret to all management practice and the vast books written about it, which is that first if the thing is very decentralised you centralise it, and then when you've over centralised it you decentralise it and so on. And actually some improvements occur usually each time oddly enough. It's a permanent Maoist revolution* (John Bellak). Adding to the plurality of concerns is the increase in the number of stakeholders which the industry has acquired. The regulatory bodies, the City, investors, government and the EC, all have an impact in different ways and make demands which can be conflicting (see 4.11:2-6).

6.8.2 industry values

One of the key value changes is the shift from allegiance to one's profession to that of the company as discovered by this former Corporate Strategy Director:...*Suddenly you had to identify, you had to own the policies of the organisation, you had to go out and promote them, both internally and externally, and so for me that was an enormous change of character.* The whole notion of becoming a business has meant management by professional managers rather than the industry related professions: *It's become a business as opposed to a...bureaucratic non-decision making organisation...it's an organisation that goes about conducting itself in a more business-like approach and is very clear what it means by professional management to achieve that.* This is very closely linked to valuing professional management practices: *So suddenly...you had this clear sense of the management has a purpose, it is in control. It has a whole series of things it wants to do, and as a person, as individuals, you have got to play in that team and play hard and take ownership of it* (former MD TWA).

At the heart of professional management are the core values of quality and efficiency which are manifested in the outputs. Described by Severn Trent's Director of Services:...*The combination of total quality, business process re-engineering, the customer service strategy which we launched in a big way.* Competitiveness too, is a value which has permeated down from rivalry between companies to rivalry between groups of workers. The Manager of Sewage Operations Thames says: *What we are trying to do now is beginning to benchmark those areas of, as it were, excellent team working and actually try to articulate what that is. And then going to other teams and*

saying "what's in it for you?". The consequences of these new ideas are major shifts in employee perceptions about the scope of their work, reward systems and personal initiative. The effects of rationalisation have been to enlarge jobs; everybody now has to 'cross-skill' because people have to really count in the business.

All these value changes have meant an increase in individual responsibility for managers and workers alike which is a complete change from the previous mode of decision-making by committees. A key vehicle for driving through performance related pay and job enlargement has been the notion of empowerment: *So people have to be given the training, the development. They have got to be empowered...Opinions matter...We are very much more people oriented both internally and externally. And that is I think quite exciting because it gives everyone a bigger stake in their jobs* (Quality Assurance Manager Severn Trent). The ability to give responsibility to people at a lower level is largely the result of the culture shift from the predecessor organisations to the companies themselves.

6.8.3 industry beliefs

The fundamental tenant of the core beliefs is that government is a bad owner and that effective and efficient service can only be delivered in the private sector (see 4.11). The two case study organisations have clear policies which are informed by their belief in acting as service driven companies as opposed to financial or professional ones. In order to encapsulate the requirements of customers and regulators the organisations have embraced a total quality ethic. This involves all levels in both organisations and people are encouraged to come up with their own solutions: *We are*

actually into a much clearer regime, I think, of understanding the three main business drivers: cost, quality and risk. And everyone is now encouraged in every part of day-to-day thinking at all levels, to actually go to articulate decision making priorities in this sort of context (MD STW).

The concept of risk, too, is not so much eliminated as managed and this forms the backbone of managing within a regulated environment: *It's more to do with the whole style of management, if you are in a regime which says there will be no risks, then what is that organisation saying about cost and quality? On the other hand if you are saying you want to get the best value for money for our customers and try to improve quality. And to do that you have to be able to manage risk, actively rather than passively. And that's a very different way of operating* (Senior Manager). This includes identifying with the dictums of the regulator. Both Thames and Severn Trent actively pursue a policy of harmonious relations with the regulator and have pronounced themselves as major environmental businesses.

Most important in changing beliefs are the managerial mind sets and the concept of organisational learning is proffered as the key to future organisation-technology interfaces. This is in no small way linked to concerns with management taking on board the private sector ethos: *I think managers are very self conscious in a lot of ways about producing vision statements...Performance objectives, critical success factors, I think these are all jargon that people are a bit frightened of....What I like to talk about...is to say "what six things have you got to do really well to make your area*

a success, and if you go from the top down you start focusing on it." (IT Director Thames).

Ultimately the core beliefs have changed from engineering to management solutions: *There are opportunities now for those with bright ideas to get listened to, particularly if they save money...For the manager that wants to manage there is a far wider remit within reach of responsibility* (General Manager Water). There is also a strong belief in the management of change to succeed. This is evident in the IT area, heavily pushed by Thames IT Director:...*the continuing drive down in the price of technology and the software that goes with it, means that I just don't see any company succeeding in the twenty first century unless they are on top of technology. And that means everyone out there will own the technology...* The ongoing drives for efficiency, manifested in new technology, HRM changes and reorganisations, have resulted in a permanent climate of change within the organisations. On one level this is seen as good business practice by Thames' senior managers: *So we are doing the sorts of things that most other large companies are doing at this time of the decade, because it does seem to be right for us as well.* At another, it is seen as an integral part of the management process: *I don't think the job is ever done. It's part of the management process. The most important aspect seems to me to be managing change* (Sewage Operations Manager Thames).

6.8.4 management style

Turning again to Keeling's (1972) five features distinguishing administrative from business systems, one can compare the management styles of the PH ideology with that of the Business ideology. Independence of Treasury and self financing are seen as

vitally important in the new era of professional management:...*It's changed the nature of the work within the business, all things are now possible and they weren't before. There really was a ceiling and walls and everything else. Of course there are now but you manage them...the framework is all there for us to manage* (CEO ST).

1. Instead of general objectives there are now specific targets related to profit and regulation because of the regulatory framework and the limits on long-term profitability. The regulation driver is as much a contributor to the focus on outputs as the drive for efficiency. Here the emphasis on total quality and service driven management are key. New regulations controlling the industry standards mean that after privatisation, sewage works have to achieve 100% compliance or seek dispensation so they are within the law. This means an emphasis on outputs:...*But it focused people on what needed to be done, not a series of tasks that may or may not achieve the output* (CEO ST).

This has especially focused management who face jail penalties for non- compliance. A situation which has made it imperative that workers on the ground adopt the right ethos. As a result of the bonus scheme introduced by ST, operators began to come up with alternative solutions to capital expenditure when works failed (7.6.4).

2. Success is now all about measurable outputs as opposed to just avoiding mistakes. The new managers of Thames utilities business were described by one senior manager as taking Attila for a role model but:...*what privatisation did stop was the rise of mediocrity and if you are smart you've got a chance. This has sharpened management*

*style but made ruthless cost cutting from the top to prop up the group companies to maintain the share price...*Human resource management concepts in the private companies are very different, reflecting the new emphasis on outputs. There is now more stress on knowledge than qualifications. Performance related pay has been introduced into the companies at all levels. For instance, parameters have been set on water and sewage treatment works in ST to determine basic pay for manual workers and are:...*one of the things that we are very proud of here in terms of the achievement of outputs... if a sample fails he loses pay. So he knows what he's there for* (Operations Director). In Thames this has involved taking out old job demarcations allowing further rationing: *One of the major planks of the employee project is to say that the only limit to what an individual did would be described only by two things. And that would be his competence and safety. Everything else is blown out of the water. In terms of "this is not my job" type of reaction* (Senior Manager). Also, all training courses have now got to be linked to results and actions for improvement: *So you have got to have some very clear business drivers for it...because that is a clear message that it is linked to competence and performance and action as opposed to...acquiring knowledge without any outputs* (Sewage Manager).

3. The economic and efficient use of resources is now paramount given the prime objectives of the industry. This is reflected in the new management style of decision making, with managers discussing issues around a computer screen rather than in committees. All managers are now very finance oriented: *You won't find a manager at any level virtually now who doesn't know what his finances look like...Not only today and yesterday but his estimates. And we match peoples' expertise on how good their*

estimates are. As opposed to how good their budget and their business plans are...(IT Director). This has led to the increased use of IT and further delayering of management, also made possible by the cultivation of "hybrid" managers who have many areas of expertise. Similarly, further redundancies are possible lower down the workforce by encouraging multi-skilled workers.

There is a sense within operating staff of the cost of capital which requires a different way of thinking if your bonus depends upon controlling costs: *Now one of the revolutions has to be that people begin to understand that capital also costs money and there are trade-offs. And the best solution may be a more expensive operating solution but uses less capital rather than the other way round which again any private sector organisation will be accustomed to.* (Chairman ST)

The drive for efficiency means that the organisations have a vested interest in monitoring employee output. This is best served by harnessing technology to avoid the creation of bureaucracy. This is then expounded as placing trust in the workforce:...*every piece of work that people do is now in our job management system, or our account maintenance system. And the hours that they work the success or not of it, it's all there. So if you totally change the way we operate and work, and you start trusting people and you don't check and double check and triple check it, then you can get rid of an awful lot of bureaucracy* (IT Director).

4. The new ideology has transformed the hierarchical rule culture into a flatter role culture via the delayerment of management. The former Planning and Regulation unit

Manager of Thames says: *The pace is different now and much more responsibility is vested with the individual now, partly because there are so many less layers of management and people between you and the responsibility.* This has been largely achieved by the introduction of IT which can facilitate work teams, leaving managers free to manage the work flow between teams: *So you only need 3 to 4 levels of management. Because they are the only ones that add value to what you do and how you work* (IT Director).

5. A professional management style may now be seen to have replaced the administrative management by arbitration and rule interpretation. The Business ideology has set in place professionals who manage by empowerment and learning. This involves a new conception of management whereby the process is one of facilitating decision-making further down the organisation. This of necessity involves increasing the skill levels of the work force and adopting an organisational learning ethic. Managers no longer simply manage workers and take decisions, they operate from a meta-level in tandem with IT, enabling them to oversee work flows and focus on wider strategic issues.

The future for the new water company managers is perceived as involving more accountability, greater focus on the customer and activity accounting, to enable managers to be even more accurately judged on performance measures. Also an increased use of sophisticated technology. The implications, as the IT Director of Thames explained, are a different conception of managers: *I think we've got to go through huge culture shock again...Now we've got to become very much more*

customer orientated, service orientated...and to me it's much more about what kind of organisation do we want to be. And what kind of systems override that...and the manager isn't a manger, the manager is the coach...

6.9 Conclusions

The last 20 years of development within the water industry represent the most turbulent passage of time since the emergence of the industry in the mid-nineteenth century. The incremental development of an ideological character by 1973, represented here in the typology of industry characteristics, values, beliefs and management styles, had been determined by structural change within the industry, the emergence of professional groups and the particular set of social circumstances surrounding the growth of the public sector following WW II. The resultant PH ideology was detrimental to the full realisation of IRBM, the most innovative structural change experienced by the water industry in Britain. In the transformation of the PH ideology there are crucial links between political ideological change in central government and the introduction of maverick outsiders to the industry who would overturn the established orthodoxies. The period beginning with the NPM trend in 1979, through nationalisation and the subsequent commercialisation period, represents a transition period for the water industry ideology. During these phases of reorientation and convergence, the industry developed a hybrid form of ideology in which NPM ideas were grafted on to the PH ideology in an uneasy alliance. It required the subsequent change of status and ownership for the identities of the ten regional entities to be finally acknowledged and accepted.

STRATEGIC AGENDA BUILDING AND CHANGE IN THE WATER INDUSTRY

by

Evelyn Maria Fenton

2 Volumes: Volume 2

Dissertation submitted for the degree of Doctor of Philosophy to the University of Warwick

Warwick Business School

April 1996

TABLE OF CONTENTS

TABLES AND ILLUSTRATIONS

SECTION 3: CASE STUDY ANALYSIS

In this section the primary data are analysed to provide an organisational context for the trajectory of the river quality issue. The following two chapters are therefore a synthesis of the case study data, illustrating the evolution of the two organisations from their formation in 1973 through to privatisation and until 1994. It is here that river quality is viewed in the context of organisational dramas and change and where the comparative contexts emerge. These chapters also serve to demonstrate the impact at the organisational level of the industry events described in section 2.

Both case study chapters are organised chronologically around the punctuated equilibrium model (Tushman and Romanelli, 1985) introduced in section 2. This model of change and continuity serves as a temporal framework by which to locate key organisational events and links the case studies to their industry context. It is noticeable that the findings differ from the punctuated equilibrium model in one key respect. This is that the duration of the commercialisation convergent period is considerably shorter than the reorientation which proceeded it. This idiosyncratic finding is attributed to the nature of the industry at the time being vulnerable to further change from the political turbulence of the wider environment. Further discussion on this and its implications for the punctuated equilibrium model will follow in section 4. Each period of continuity and change is examined for the internal management processes around structure, key functions and regulation and river quality. The river quality issue comes towards the end of each organisational phase to indicate the cumulative effects of the internal processes upon the issue.

The analysis of organisational change and development documented here reveals strong similarities. Both organisations exhibited a pattern of development whereby each period of convergence attempts to fulfill the goals of the preceding change period. However, the trajectory of the river quality issue displays significant

differences. The pattern for both organisations shows initial enthusiasm at the formation of the authorities followed by a static trend with a slowing of improvements from the mid to late 1970s. Thereafter deteriorations become evident in the early 1980s and the pattern of performance for the two organisations diverges. While Severn Trent shows a slowly improving trend until 1990, Thames exhibits a marked deteriorating trend until the end of the decade.

The key issues borne out by these chapters are the failure of integration due to the early structural arrangements and internal politics, the impact of new government financial controls on managerial processes and the adoption of a commercial ethos following the nationalisation of the industry, the rapid cultural changes required by privatisation and the current policy emphasis on efficiency, quality and service bound up with the regulatory structure. Throughout, the effects of government financial controls on organisational politics and decision making which impact on river quality are evident. Distinctive key events for the two organisations are the MMC enquiry into Severn Trent during 1979-80 and the instigation of privatisation by Thames' Roy Watts as a result of an unprecedented public campaign, first for a debate in the House of Commons and later to make the rivers private. This detailed examination of the internal processes of the case studies is a crucial underpinning for the analytical chapters in section 4.

7. SEVERN TRENT WATER

You and I must keep from shame
In London streets the Shropshire name;
On banks of Thames they must not say
Severn breeds worse men than they;
A. E. Housman, 1896

7.1 Background

The Severn, the Trent and their tributaries effectively divide England, gathering in the huge Midland industrial and manufacturing area that lies between the Humber estuary and the Bristol Channel. Severn Trent was the second largest authority, after Thames, but with a considerably larger area, needing for instance nearly 10,000 km more water mains than Thames. This authority was unusual in combining the drainage areas of two rivers, the Severn (the longest river in Great Britain) draining into the Atlantic ocean and the Trent into the North Sea.

Severn Trent occupies an area of contrasts; a substantial part of the drainage area of the Upper Severn is in Wales providing ample quantities of high quality water, while the Trent, with Birmingham at its head, has been heavily polluted by serving as a drain for the industrial Midlands. The peculiarity of the region is that most of its major conurbations sit on the headwaters of river systems. For instance, Stoke-on-Trent, Birmingham and Leicester are all on small brooks or rivers, providing little dilution for effluent. As the first Chairman Sir William Dugdale pointed out, these contrasts were the impetus to put the regions together: *And it was absolutely vital...*

The combined STWA therefore had a tough job on their hands initially with river water quality. Even though the Severn produced good water, this in itself did not guarantee quality standards: *In the Midlands the water on the whole was better than London because it came from Wales...As a result of that the founding father philosophy in the West Midlands was: never clean anything up, it's your neighbour's problem 5 miles down the river and if you get short of water you can build another*

reservoir (Sir William). There were also distinct differences between the Severn and Trent RA areas in terms of investment: *...the Trent was a much more wealthy authority...So the RA could afford to pay the staff to do more consent setting in those townships* (former Trent RA Engineer).

The major clean-ups of rivers had begun in the 1960s by the then Minister of the Environment Tony Benn: *...there was a lot of expenditure in Stoke and in Birmingham in the early 70s, which ran into STWA up to about 1978* (former Trent RA Scientist). Also the authority inherited personnel with a sound record in RWQ improvements. STWA's Director of Scientific Services was responsible for cleaning up the Trent for 10 years prior to coming to STWA, including setting up purification lakes on the river system and working with the WRB on the Trent Economic Model. The clean-up of the notoriously polluted Tame was initiated by Severn Trent's first Director of Operations and later Chief Executive, Don Reeve.

7.2 Emergence: 1973 Reorganisation

The new skeleton authority was immediately confronted with a poor sewage effluent record. However the shock at the scale of river pollution was matched by a commitment to pollution control by the Chairman and the expertise and enthusiasm of key officers within the authority. The main activity of the shadow authority centred on establishing a decentralised structure to prepare for the emergence of the new organisation within 9 months.

7.2.1 quality inheritance

In examining their inheritance, the STWA studied the quality of water supply systems of 25 water supply undertakings, the wastewater and disposal facilities of 210 LAs and two drainage boards and the quality of industrial effluents discharged to rivers. They prepared a report to serve as a baseline for the assessment of the future

performance of the STWA (Severn Trent Water Authority, 1973a). The current Director of Planning who joined in 1974 had as his first job to carry out a survey of the company's assets: *It sounds strange to say but we did actually find assets that we didn't know we had. Even the local authority who had handed them over didn't know they had them. They were mainly small little sewage works...pumping stations and so on.*

The report noted with satisfaction that all the water supplies in the area met the overall public health requirement of being 'wholesome'. This was in sharp contrast to sewage: *...the overall quality of sewage effluents discharged to rivers was appalling. Nearly 300 of the 700 sewage works produced unsatisfactory effluents based on the conditions of consent given by the former river authorities and more than 25 percent of the 436 mgd (2 M m3 per day) of sewage effluent discharged was unsatisfactory in quality.'* (Severn Trent Water Authority, 1973a: IV). If the requirements of the receiving stream were being considered, 43% of the treatment facilities discharging 66% of the daily volume of effluent would be classified as unsatisfactory. As a former Divisional Manager at the time reflected: *Prior to 1974 I was horrified by what went on in sewage treatment and local authorities with similar other operations spent as little as possible on it...In Dudley, all the sewage went straight out onto a farm. The whole of Dudley went off into allotments and people grew cabbages and things...I just didn't believe it when I saw it. But it had been happening for 50 years. There was no sewage works for the whole of Dudley.*

The industrial effluents that discharged to rivers exhibited a picture not dissimilar from that for municipal effluents and discharges. These unsatisfactory effluents caused tributaries of the Severn and the Trent to be so polluted as to be incapable of supporting fish life. Thus, even where they had legislative authority on inland waters and enjoyed an 'adversary' relationship with those being regulated, the river authorities for a wide variety of reasons did not make a strong record (Okun, 1977). One of the

reasons was identified by a former Divisional Manager: *We had extreme cases, where we had 2 sewage works in adjacent fields, belonging to different district councils. That sort of nonsense had happened for political reasons.*

Recognising the problem of the 'poacher-gamekeeper' controversy, the STWA established a water quality advisory panel in an attempt to assure the public of its dedication to pollution control. Their decision to produce annual WQ reports unique to the industry, reflected the background of the Chairman who had previously been Chairman of the Trent RA and of the River Authorities Association Pollution Committee: *I had served quite a long apprenticeship and picked people to run the department who...felt it was very necessary.*

In introducing the STWA report, the chairman of the water quality advisory panel stated that the report: *...records in quality terms the past performance of the Authority's predecessors and will form the baseline for the assessment of the future performance of the STWA by the water quality advisory panel and by the public at large* (Severn Trent Water Authority, 1973a). This self-regulatory arrangement was both political and pragmatic: *It was political in the sense that it was trying to show...the brave new water authority was actually genuinely making some improvements* (former Pollution Control Officer). While from the viewpoint of Fred Lester: *...when you let people know what's going on it's strength to your elbow.* Indeed, the first Water Quality report received some notoriety by listing those companies who had refused permission prior to implementation of part II of COPA, to disclose the nature of their consents. This was picked up in an article in the *New Scientist* (Tinker, 1975) which the CBI quickly discounted as unscrupulous. Severn Trent repeated the exercise in their second year of operation (Severn Trent Water Authority, 1974/75) which was lauded by the DoE (New Scientist, 1976).

7.2.2 Board

Okun (1977) noted that because the STWA served a highly industrialised area, its labour and industry members exerted a somewhat greater role than might be the case in other WAs. Also, local authority members appeared to serve more as representatives of their authorities than was the case in other WAs. The Chairman was viewed as a strong character and well connected with government: *...he was steeped in the local authority tradition and his job was to manage the 40 people and he was ideal for that* (Finance Director). He always attempted to keep politics out of the committee work and tried to concentrate on the task of pulling the organisation together, and one retired Divisional Manager described him as: *...absolutely brilliant politically. He was brilliant at making people work hard.* One strategy for making members see where the priorities lay was recounted by Sir William: *Well, you only had to take them to one of the sewage works and stand them over the effluent going into the river. People got the gist quite quickly.* Also, most of the members had served on one of the water supply undertakings: *And so they'd seen the effects of chucking the stuff over the boundary. And you know we worked on them like Billy Graham really and we had tremendous teaching all the time* (Sir William).

7.2.3 structure

The organisation of the HQ followed the guidelines set out by the Ogden Committee. The STWA division structure was also organised in accordance with Ogden, with divisions for the separate functions: water supply, water reclamation and rivers. STWA took over and amalgamated 242 separate organisations to form 15 water supply, 9 water reclamation, 2 dual-purpose (supply and reclamation) and 2 river management divisions.

The late Marshall Nixon, the STWA's first chief executive, saw the initial period in the life of the authority as being devoted primarily to meeting R-day, 1 April 1974, with the maximum delegation to the operational units. However, as a member of the

Ogden Committee, he indicated that the STWA would be examining very closely the 2 dual-purpose divisions, as their structure would be truly multifunctional, with four key individuals in each division being concerned with chemistry, operations, new works and finance, all on a dual-function basis. The success of these divisions would affect the speed with which the remainder of the STWA moved towards dual-function operation. Each of the two rivers would be managed by separate divisions, with basin-wide management programmes for monitoring and organisation.

The predecessor organisations would have an influence both in terms of how fast the organisation integrated and the tenor of management processes, for at least 10 years. As the Finance Director reviewed the unification of the new authority: ...*we started off with something like 240 different organisations coming from disparate parts of the Midlands: organisations large and small with their own characteristics, with their own idiosyncratic practices, with their own management styles. And combining them was achieved by the imposition at times of practice.*

7.2.4 management

The quality and expertise of the management were high. It was not surprising that WF Lester OBE was appointed head of Scientific Services, the regulatory arm of the organisation. He had a long career in pollution control and had previously worked with the Chairman Bill Dugdale in Trent RA, who described him as a "crusader", on cleaning up the Trent. He was remembered by one former Divisional Scientist as a: *Very powerful man with a national recognition.* While a former Operations Director remembers Lester and his team producing water quality reports which were ahead of their field. Also Marshall Nixon came from the Trent RA with a history of commitment to improvements in water quality. The reorganisation allowed ST to select the best staff from the LA bodies: *What we were able to do was to take inherited management graft a lot of good people on to these. But actually to use the*

good quality management over a wider range of works (Director of Environmental Affairs).

The excitement, tension and enthusiasm of those first months in setting up a new organisation is captured by a former Divisional Manager: *We stood in the office and cheered when we had the men's' first pay day and got away with it - it was really quite hairy at first. Just getting the support services sufficiently together and if we hadn't cooperated between the operating divisions... We all worked out of one office in a rundown building at the beginning. It was really quite pioneering. And very exciting.*

7.3 Convergence: Integration 1974-79

The first period of convergence was marked initially by a new CEO after the premature death of Marshall Nixon, restructuring into multifunctional divisions one year later and abolition of the resources planning directorate. The annual reports during this time show a preoccupation with the authority's inheritance and internal development issues for the first five years (STWA Annual Reports and Accounts, 1974-79). The one external issue which dominated much of the organisation's agenda during the 1970s was that of water charges, and later direct billing. As Sir William recalled: *The real political problem was that no council house person before 1973 had ever seen a water bill...so that when every single council house got a water bill, you had to stand back and wait for the explosion which duly came.*

Unfortunately, Nixon had died before the STWA became operational. He had played an important role in the reorganisation throughout England and Wales as well as in the STWA. The Chairman took over as chief executive for R-DAY until the appointment of a new CEO. JE Beddoe, who had been Under Secretary in the DoE, and has been characterised as the 'architect' of the water reorganisation, was appointed CEO on 25

April 1974. As he had been intimately involved in the reorganisation from its initial emergence as a possibility through its most difficult periods, as a member of the Ogden Committee, and behind the scenes in many of the government's activities with regard to the reorganisation, professionals in the industry would follow with interest the impact that he would make on the STWA. He could not have been much more different from Marshall Nixon, as he was very much the administrator and more organisation focused.

7.3.1 structure

The total projected capital investment needs of the constituent bodies which became STWA was very high. The first thing STWA did was to rationalise that programme because there were many overlaps. In October 1974 the STWA announced that it would, as of 1 April 1975, operate on a completely multifunctional basis with eight all-purpose divisions replacing the previously organised divisions. Included among these new divisions were the Birmingham Water Supply Division and the Upper Tame Water Reclamation Division, entities that incorporated what had been the two largest agencies taken over by the STWA. The two river divisions were abandoned and their responsibilities distributed amongst the eight new multipurpose divisions.

This reorganisation was the subject of considerable adverse criticism, particularly from those associated with the river divisions, who felt that their jobs were being threatened by the new organisation. NALGO's national organiser for the water industry indicated that the union had yet to be convinced that the reorganisation was necessary at all. The new changes would disband what had proved to be an experienced and successful team in managing the Severn, and many officers believed that the STWA's two catchments, the Trent and the Severn, should continue to be managed by separate divisions. This was considered the only effective way of safeguarding the river. In STREAM, the house organ of STWA, Beddoe gave the following explanation, characterised by the *Surveyor* (1974d) as 'jargon-clad': ...*we*

must look forward and consider how the pioneering work of the former river authorities has led the way to this present recognition of the need for the primary functions to be organised on a broader basis. DAD Reeve, Director of Operations, asserted that the STWA reorganisation was only accelerating a process that had been planned and pointed out that integration of river management with the rest of the STWA's responsibility was a natural corollary of the Water Act, bringing all water functions under a single control.

All functions would be coordinated at HQ and those responsible for river management would report to the Director of Scientific Services rather than the Director of Operations, moving the dual role of 'gamekeeper-poacher' one step higher in the management pyramid. Reeve was convinced that the decision to speed up the introduction of multi-purpose divisions reflected the wishes of most of the staff to minimise the evolutionary period, and in opting for the more revolutionary change 'there had to be some blood spilled on the way'. This was felt by a former Operations Controller who helped set up the first divisions and found 2 changes within 12 months traumatic: *I thought it happened too soon, we were still up to our ears getting ready the original single function divisions...*

The regulation function was now organised into seven pollution control areas, each with an area pollution control officer. The majority of staff were based out in these areas which were carefully chosen so as not to have a one to one match with a division. The sort of activities which were carried out, such as sampling and monitoring effluent quality, were an extension of the old RA functions: *We were very protective. Very very parochial. I was only interested in my river catchment and I didn't give a damn what went on around it* (former PC Officer).

7.3.2 leadership

Blood was also spilled at the STWA HQ, which initially had been organised, following the Ogden Committee's guidelines, with five directors. In the summer of 1976, Beddoe proposed and the STWA endorsed the elimination of the Directorate of Resource Planning and its replacement by a small central planning unit reporting to an assistant director with dispersion of its staff to the other directorates. That the STWA was the only WA abandoning its directorate of resource planning gives credence to the view that the issue was one of personalities rather than principle. The current Quality Assurance Manager remembers it as one of the first power struggles: *That was a resources battle if you like because a lot of the resources people (were) painting very large pictures and very large power.* He points out that resources people were virtually unknown in the industry before 1974 and had their own identity with organisations like the WRB. Leadership under Beddoe was at this time very much driven from the top, as the current MD recalls: *Beddoe was managing a group of directors who were barely a team...*

After Beddoes retired at the end of May 1977, Don Reeve took over as chief executive on 1st June of that year. He was described by the current Finance Director as steeped in the water industry: *Now his attributes were knowledge of the patch, knowledge of the people, knowledge of the technology and techniques, his ability to command, have a presence on national committees. He was a water man.* Formerly of Upper Tame Main Drainage Authority, Reeves was an old sparring partner of Fred Lester from the RA days, described by Lester as the engineer for Trent RA's main polluter.

Under the multifunctional reorganisation, divisional managers had been responsible to Reeve as Director of Operations. Now Reeve decided to take direct responsibility for divisions, leaving the new Director of Operations, Bromell, out of power: *...he raised the status of divisional managers...this was a wise and proper thing to do and in that sense (most people) held him in a reasonable amount of esteem. I think he was an*

evolutionary chief executive as opposed to a revolutionary one. This was actually needed at the time because there were so many changes going on (Quality Assurance Manager). Reeve's management style was to give increasing responsibility to divisional managers: *It was a phrase that was used time and again - 'Responsible for everything that happened in your patch'* (former Divisional Manager Upper Trent). Nevertheless, the increased power of managers allowed them to appeal over his head directly to committees: *They set up these sort of committees...which tended to dominate the region in the day-to-day running and the balance of power* (former Divisional Manager West Midlands).

7.3.3 divisions

The devolution of power to divisions led to poor relations with the HQ management who dubbed them the eight barons. As one former Divisional Manager recalled: *The centre became very frustrated by having to suggest things to divisional managers rather than implement them. So they became coordinators at the centre.* However, there were positive results for multifunctional management, as expressed by a retired Divisional Manager*: The whole function of the business depended upon the operating divisions getting to grips with the operational problems. And we were given immense freedoms to do it. And there was a great deal of talent. Managerial talent...A huge amount, that had never been given its head really...And they were like little boys.* This divisional arrangement while useful for the organisation at this stage of development had its drawbacks: *...it was very difficult for them to respond to change. They were fixed, they were hierarchical, the divisional manager did have his baronetcy...*(former Divisional Scientist). One method of retaining power was to work the committees as Board members: *...they'd get hold of their local man...arrange for a sub-committee to be set up which they would be sitting on as the expert and then they were sort of running the show* (Director of Planning).

The current MD recalls the dynamics between divisions: *There were eight powerful divisional managers. And the meetings that took place were often quite confrontational and not always very business-like.* Differences between divisional managers in how they used their power came down to personalities. The strong ones had typically been city engineers and could be somewhat inflexible. There were also differences in practice, for instance one Senior Manager remembers when regional water quality data systems were introduced in 1978, two of the eight divisions continued to use their own: *(They) basically cocked a snook at the regional systems. So there was quite a lot of tensions of different sorts, and of different priorities and different views of how things should be addressed.* This inevitably led to different divisional cultures developing but not entirely without some shared understanding of the responsibility of running a division: *They were quite big businesses and demanded a lot of control. So there was a great deal of camaraderie between, certainly most of the divisional managers* (former Divisional Manager).

One former Divisional Manager found he had to work quite hard to maintain the cooperative stance between his division and HQ: *I quickly discovered that unless I worked positively to reduce the gap between us, then it naturally grew. Of its own volition almost...* His policy was to ensure that his staff maintained very firm links with HQ. While divisions had a great deal of discretion in decision-making on a day-to-day basis, HQ needed to coordinate policy, such as for example in dealing with district council sewerage agents. But as one Divisional Manager found: *The dividing line between coordination and interference is often a fairly fine line. And if either a divisional person, or a HQ person, was wanting to make a name for themselves and make waves. Then there were plenty of opportunities for them to do it. Always.*

The divisions at that time were concerned with meeting and complying with their budgets, getting their water supplies up to better standards and trying to do the best with the sewage works they had to meet the consent standards. Each division had its

own support function such as collecting its own income from its customers and was responsible for their own capital programmes. Three or four of the divisional managers were very strong willed characters who resented the HQ interference in their capital budgets. A former Divisional Head of Finance remembers the treatment metered out to the visiting HQ appraisal team by the divisional manager: *...saying 'you are not welcome here and we would rather you didn't stay. And if you insist on staying then I will call the meeting off.' Tail between the legs the appraisal men came back to HQ and reported.*

The capital programme was a major task as not only did divisions have to fight for priorities on the allocation of cash by justifying the benefits, they were also held responsible for spending it in the capital year. Thus a manager may be managing a capital programme which would take 3 to 4 years to implement and running on a year by year cash allocation. A former Manager described it as dominated by accountancy management: *You tried to ascribe values to benefits and cash flows...And at the end of the day you came out with a sum. And your scheme got a ranking of X. But of course you could influence the priorities on the base of maybe 30 headings if you knew what you were doing.* This was a coding system for the capital programme and the divisions eventually became expert at managing it so that it became a game as well as producing a certain amount of friendly rivalry between divisions: *If you had a good little back room lawyer who could work the coding of the scheme he could get you anything. And of course, there were sort of 'well chief exec I think we need that' a lot of lobbying* (former Divisional Scientist). One former Divisional Head of Finance recalled his tactics of being better prepared than the people at the centre to get resources at the yearly budget meetings: *I always knew that they were trying to manage 8 different organisations and I always sought to be in there first...I knew they wouldn't get their act together until about round three.* But it was not all bad; one former Divisional Manager recalls the improvements which could be made to quality with the small schemes budget (<£20,000): *...that did tremendous good...it gave the*

individual operating managers the opportunity to do the things they'd been wanting to do with their effluents that they'd never been able to do.

7.3.4 HQ executive

The key executives all came from either RAs or sewage operations which gave an emphasis to the concerns at the time: *We had some fairly eminent people here as directors at that time, who'd come from a sewage treatment background. And therefore I think we always tended to have more of a driver coming from the sewage treatment direction* (Director of Operations).

The corporate management team (CMT) met as 4 or 5 directors once a fortnight while the divisional managers met monthly with the chief executive. Although Reeve chaired them both there was conflict between the two groups. There was also a second tier in the centre, comprised of 28 assistant directors who formed their own ADCMT because they complained they didn't have sufficient power over divisional managers and in policy making. As a former Assistant Director of Operations from that period remembers: *Strangely enough it wasn't the enmity between the divisional managers and the new ADCMT, it was the suspicions of the CMT that the ADCMT were seeking to usurp their powers...It was immaturity, a lack of strength on the part of management, or indifference ...to take a strong central lead. And the overmanning - too many directors and assistant directors who were fighting for power...* One of the responses to the overmanning was for the executive to attend endless meetings and committees either at the NWC in London or with government. There was no way that the HQ executives could be described as a team with the power struggles and difficulty with decision making, hence another outlet increasingly became the operation of the divisions.

7.3.5 the Board

The struggle for power at the centre was compounded by the 50 odd members of the Board, described by the former Director of Operations as: *A totally unworkable situation being a disparate group of people politically and from different backgrounds.* Many were looking at their own local interests and so decision making tended to be dominated by parochial views. There were a variety of powerful individuals on the Board who headed up committees or were deemed to have expertise in a particular field, but as the former Chairman declared: *The able politician is very good but a great many of them are frankly windbags and want to sit on the committees rather than actually get stuck in and do the work.*

Gradually the Board became more interested in the detailed workings of the authority, leading, as one former divisional manager recalled, to a situation where: *There wasn't a clear line between HQ's responsibility and divisional ones.* The Board set up their own committees for works, finance, etc to occupy its members which all had to have committee clerks: *At one stage you had 8 or 10 people just in the Committee Clerks Office. Looking after agendas and minutes of meetings for Authority committees and sub-committees* (Head of Technology Development). They also had reports back to committees which were all asking for additional information, supplied by the assistant directors: *And the directors had to look at the information that was supplied because they weren't very happy that third tier officers were answering these questions* (former Finance Director). A former Divisional Manager remembers the Board as interfering and inefficient: *It cost a bit of money to administer. And we resented that too. That was money that should have been spent on improving sewage effluents.*

The Board did become more influential in decision-making. For instance, it had very strong fishing and land drainage lobbies although there was no lobby for sewage or water. The land drainage committee was divided into two sub-committees for both catchments with representatives from MAFF and the NFU: *...very powerful people by*

dint of the organisations they'd come from...and they lobbied for cash to be spent in their direction (former Assistant Director). There was also the widely quoted example of the Board overruling the decision to buy an IBM computer, against the advice of the directors, in favour of ICL (to support British industry). It never worked and was a costly mistake to rectify.

7.3.6 policy

A former Divisional Manager of the largest division recalls the divisional structure as a viable and cheap form of organisation which needed very little direction from the centre: *At that time it was quite clear, you either got rid of the centre and had eight individual units which could be made relatively, quite efficient...Or you had a central organisation and didn't repeat all the various activities in the divisions. It was pure power, of the worst. But it was a question of where you were at the time as to which way you wanted to go.*

Indeed, decentralisation had the support of the Chairman because of the size of the region and his management philosophy: *I'm a great believer in leaving people to do their own thing and hammering them if they get it wrong.* However, decentralisation was found to be hindering the benefits to be gained from reorganisation: *By 1980 it became a question of how much effort have we got to put into this to put it right. And that was an issue* (former Assistant Director). This issue would first be resolved by integration of the regulation PC areas into divisions during nationalisation and, in the following era, by the centralisation of support functions.

7.3.7 river water quality and regulation

The projected shortfall of water by the WRB in 1970 made water resources a key issue and one of the drivers of RWQ, as the only new water sources were from polluted rivers. This was linked to the key issue of integrating the disparate bodies responsible for the water cycle: *...you had the clean waters people realising that they were*

dependent on the dirty water people cleaning the thing up...and that the thing was economic, that money you were charging was being well spent (Sir William). A subsequent analysis on the levels of domestic demand proved that the demand issue wasn't anywhere near its projected shortfall (Source: MD). STWA were almost committed to a new reservoir Craig Goch in Wales which only a bit of brinkmanship prevented. Later this was channelled into Carsington reservoir.

In the early days it was felt that there was a strong will and determination to improve RWQ: *I think it was a conscience of a long history of problems in the country...and there was a tradition and history of improving water quality...The corporate management team at that stage did have people who were definitely from the industry and carried that with them* (former Pollution Control Officer).

classification of rivers

STWA were very much involved with the national rivers classification scheme, based on river use and related to river standards (see 5.7.5). This set a national standard for the first time with planned objectives. However, some rivers had been classified without a great deal of data, particularly the smaller rivers which PC officers made subjective judgements about. For instance, there were lowland rivers that were classified as 1A which wouldn't apply now because of farm pollution. But officers were reluctant to downgrade because the variability of RWQ means a lot of data are needed to be certain that a change has occurred. Therefore there was a more optimistic classification of rivers in WQ reports than was the case in the mid to late 1980s (Source: NRA manager). Linked to the classification scheme was the setting of effluent standards from 80% to 95%. This caused friction between operations and Fred Lester because it was perceived within divisions to be a tightening of standards: *We were concerned, those of us who knew sewage works very well that it was going to be impossible with the equipment that we had to comply 95% of the time* (former Divisional Manager).

the regulation function

Some PC Officers felt compromised from the start in the new integrated authority: *I think some of the PC officers probably felt that their freedom to act was diluted by being part of Severn Trent as opposed to a more RA type organisation* (Principal Advisor Effluent and RQ). This was felt early on in the rivers divisions when the differences in the size of sampling between the rivers and operational divisions meant that the large divisional sampling, when averaged out, tended to absorb the smaller amount of independent sampling. A former Senior PC Officer recalled: *Our samples were seen as audit samples which wasn't very effective...There was a feeling that we were, if not a nuisance, that we were to be considered separate.* Later, in the seven pollution control districts the officers tended to ignore the politics of the organisation and maintained a separate identity: *I don't think I felt part of an enormous organisation. And certainly up to '82 we weren't really made to feel, or wanted to feel part of the organisation. We tended to treat ourselves as the elite of the organisation. And we'd put as much pressure on them as we could* (former Senior PC Officer).

Fred Lester saw the statutory responsibilities of the RAs as more clear cut than the authorities. It had been an adversorial system which changed in 1974 to in-house regulation thereby presenting a more difficult situation for the regulating arm. As Fred Lester recalled: F*rom 1950 to 74 I knew precisely what my role was. I had to cause people to spend money.* He conceded that the advantages of IRBM lay in the planning and immense sums of capital expenditure to which Scientific Services had an input: *So you were able to deal with it internally, to improve things.* But the change had serious consequences because the WA could not take legal action against itself and evenhandedness in dealing with industry was in question: *I can remember very clearly when something went wrong on one occasion, the Divisional Manager was reprimanded and told if it happened again he'd be out...So as far as industry was concerned they didn't see this as being quite cricket* (Fred Lester). Later, the abolition of the rivers division was seen as a further compromise. As a former Scientific

Services Scientist concluded:...*the regulation might have been stronger if the rivers divisions had stayed as rivers divisions. Instead of all being absorbed centrally.*

Regulation was an improvement on pre-1974 days in terms of expenditure on sewerage and sewage treatment, particularly in relation to the requirements of the river, nevertheless: ...*there were virtually no teeth in the quality auditors... because they were part of the same body as ourselves...generally weakened by the delay in the UK government passing COPA part II* (Director of Planning). So if the authority broke the consents applied to the works, they were immune from prosecution apart from gross pollution. Indeed, self-regulation was an advantage to the Treasury who didn't want to see costs going up. One Senior Professional at the time recalled the tactics to save money: ...*our operational samples...were also the statutory samples we were policed by. I'm not suggesting that we ever fiddled the results but I'm quite sure we could take a sample when we knew the sewage works was likely to be operating better.* The then Chairman described sewage works regulation as:...*always liable to be a trade-off in a corridor meeting between Fred Lester and the Director of Operations.* He had always felt it was a political mistake to exclude the prosecution route to compliance:...*we weren't immune from the careless operator who did something wrong. And then you should be prosecuted.* Fred Lester felt that while a reasonable system of planning was in place for increased pollution loads from industry or new housing: ...*it would always be too late. We would like it to have happened before we said anything.* Also criticism was levelled at the WQ reports by the former Director of Operations: *It was historical and that was the big mistake...it was six months after the year and it was all too late to do very much about it.*

The intentions of STWA were good in this period and much enthusiasm for improvements had been carried over from the RAs. This optimism was reflected in the classification of the regions rivers and the projected improvements. The concern with quality was high, evidenced by the huge bureaucracy it precipitated in terms of

fisheries, river monitoring people and laboratories, all expanding very substantially, including financially.

The capital investment programme was very much the key to performance during this period. It was driven by schemes and their speed of implementation which depended in turn on local engineering issues and planning permission. But these were still divisional decisions with the disadvantages of decentralisation, as the current MD recalled: *I thought a lot of that stuff at that time was slightly ad hoc. It wasn't really part of an overall strategy.* The initial investment by STWA was responsible for some improvement in RWQ but external factors were also cited as relevant, including: *The decline in industry and the change in the nature of industry, going away from heavy manufacturing processing* (former Senior PC Officer). Thus performance may be attributed to both external regional factors and much positive activity from within STWA.

7.3.8 summary of integration

At the formation of the organisation the main impetus to keep the services going led to a great focus on operational activities. As the organisation matured the benefits of uniform approaches began to be appreciated. This was confounded by the problems of decentralisation: *So one couldn't see Severn Trent Authority really as a single entity...and there developed quite a desire for centralisation* (former Divisional Scientist). Consolidation and rationalisation were not achieved during this period and took until 1980 to really begin that process effectively. Also there had been a weakening of regulation as the Director of Planning hypothesised: *Perhaps that 10 year period was a bit of an opportunity missed. And maybe the key thing was the lack of an independent regulator...* In discussing the overmanning situation and the reluctance to make changes, he identified a lack of organisational cohesiveness and vision: *People weren't prepared to learn from their mistakes...We had no corporate vision. And it certainly wasn't shared further down the organisation.*

7.4 Reorientation: Nationalisation 1979-83

This period of change begins with the Tories coming to power in 1979 and is characterised by the new financial controls placed on the WA which would prepare it for nationalisation. STWA was at the forefront of these changes with their referral to the MMC in 1979. The subsequent outcome of that report would have ramifications throughout the industry in 1983 with the removal of LA Boards. Internally, the organisation's response to the MMC and increasing financial constraints had a marked effect on their regulatory function with implications for RWQ. Another issue was consents standards which were set at the performance of the works. This period of change culminates with the arrival of a new Chairman and a smaller Board.

7.4.1 political change

The first impact of the change of government was felt when Sir William was called to see the Secretary of State Michael Heseltine. The Financial Director at the time recalled his words: *The rules have changed, we're going to start running this organisation efficiently.* The immediate consequences were a request to cut manpower by 10% and a cut back in the Board's proposed 17% increase in charges to 13%. At this time ST along with the other authorities was subject to a government audit to ascertain their level of charges. Relations with Ministers and the DoE were tense at this first meeting under a new government and continued so. As the then Finance Director recalled, there were: *Huge arguments in those early stages. There were major stack-ups that evening we had with Michael Heseltine. He walked out, his goldilocks flying and I can remember getting very cross with him.*

Like the other authorities, STWA had recruited a lot of people in anticipation of the never to be realised problems foreseen by the WRB in their prediction of increasing water consumption. Then economies became possible with information technology enabling efficiency gains with direct billing, laboratories, CAD and the processing of salaries. Reeve decided to rationalise the workforce, confirmed by a former Divisional

Accountant: ...*You'll probably not find any documented evidence, but he had manpower phases 1 and 2.* The first phase cut out 5% of manpower across the board which caused consternation within the divisions as one former Manager recalled: *Now that came as a pretty cold shock to divisional managers. I was the same as everybody else saying " OK, we can do it, but it will affect quality"...And we were wrong. I was wrong. We got rid of 5% of people and never felt it...it taught us we could work a whole lot harder than we had done.*

When phase 1 proved successful, the second phase made more selective cuts but with the stated intention of getting all manpower reductions closer to 10%.
This involved the Chairman in negotiations with the trade unions: *I spent a great deal of time going round talking to branch GMB union meetings.* STWA had started off with 11,000 people and by the end of nationalisation had slimmed down to 8,500 with rationalisation and automation. As the Director of Planning explained: *We really couldn't find efficiency out of the organisation other than manpower, that wasn't counteracted by growth.*

7.4.2 finance

The Finance Director at the time chaired the group which introduced current cost accounting and so was an enthusiast: *CCA information helped us enormously because by the time we were privatised we were repaying debt...the thing that screwed up everything was inflation.* However, the package of financial controls caused much consternation because of their rigid framework with the result, according to the Planning Director, that it was difficult to get a needs driven culture into the organisation: *The government... virtually enclosed us and gave us no flexibility at all...We felt, although we wanted to plan against needs, all we ever got out of the DoE was some financial constraints and "just manage as best you can lads". So there was nothing to bite on...The guys out there who were operating the plants, if they didn't*

get any investment felt they were hard done to. And those that did felt they were just lucky.

7.4.3 MMC enquiry

The debate over centralisation was finally settled by the MMC enquiry which took place over 1979/80: *We were told that we were chosen because we were one of the few that could stand it* (MD). It proved to be quite a turning point, leading to a detailed investigation of STWA's management processes. The report was mostly concerned with the effects of decentralisation as the MD explained:...*they were very critical of the devolved responsibility to the divisions. They felt there wasn't sufficient management control.* The MMC concluded that the common policy throughout the region wasn't strong enough to get the benefits which should be available from an organisation the size of STWA. One former Divisional Manager thought the conclusions wrong, as the benefits to be gained from divisional independence were far more important than continuity of policy: ...*their inspectors had been polluted by a number of assistant directors at HQ who were very keen to get control of the divisions.*

The enquiry also led to more of a focus on operating costs which was followed soon after by the introduction of performance aims to the industry. At this time STWA quantified levels of service, although at a fairly crude level compared to later in the 1980s and now, according to the MD: *And quite honestly, if you look at our organisation now, there are still elements of the MMC report which exist.* As a result, a whole series of controls were set in place, initially budgetary and later quality controls. An almost immediate outcome of the enquiry was a structuring of the divisions' capital programs to meet the strategic objectives agreed by the authority.

The then Finance Director tells how the MMC saw the Chairman and directors but none of the members, until asked by the executive if they wished to talk to them: *I felt*

a bit guilty about it because we sent them there with no briefing... And that showed them what a rabble they were. The upshot was the recommendation that a small Board would provide a more efficient method of running the organisation. As the Finance Director recalled: *When the Chairman came back he was ashen. He thought we'd come out of it very badly. But as the smoke cleared it was a very good exercise.* A Divisional Manager of the then largest division expanded on the benefits of the enquiry, calling it: *...one of the best things that ever happened to ST...Because it allowed them to recognise where the strengths and weaknesses were as perceived by an outside body...and to start to put matters right, ahead of just about everybody else in the field...(consequently) ST by the fact they'd been forced to do it became leaders in the management of change.*

7.4.4 regulation and RWQ performance

Regulation within the authority was tempered both by external political collusion with the lowering of standards and the internal politics of the organisation, shaped by the structure, practices and financial pressures. The most significant change came with the disbanding, in 1982, of the Scientific Services Directorate and the move of the regulation function into divisions. This combined with external pressures on financing lead to an overall static performance in EQ and a slowing of RWQ improvements by the close of this change period. The Director of Environmental Affairs elaborated:...*over the period, particularly moving towards the late 70s early to mid 80s, there was a very heavy squeeze on capital investment, which meant that we were not able to pursue the things which had been agreed nationally, in terms of RQOs in 1979....There were a lot of tensions at that time within the Authority. On the rate of progress that could be achieved.*

1979 review of consents

The DoE consents review which set the standards to the performance of the works was seen as a fudge by the regulators: *And they said essentially "what can we cut, how*

much can we move the goal posts" with respect to the consents to make ourselves comply (PC Officer). Whereas the rivers divisions had sampled randomly and established averages of 60% compliance, the favourable operations samples provided comparatively weak data which overnight implied 95% compliance. These relaxations continued into the 1980s, the consequences of which were elaborated by the Principal Scientific Advisor: *I think one of the effects of all these reviews of consents, perhaps that people had a lot on their plates. Certainly the regional policy people had a lot to worry about. And perhaps this diluted some of the effort that might have gone into being more concerned about things like pollution incidences...It was also a frustration to those people that the powers of COPA were never implemented.*

1982 structural change

In 1982 the seven pollution control areas were moved into divisions. Officially this was to rationalise resources as there was often an overlap of function between the PC officers and divisional trade effluent control: *And certainly at times there was adverse comment that the two might turn up. Being completely independent* (former Principal Scientific Advisor). By putting quality control into division and combining it with industrial waste it created a much neater interface.

There were also political motives around the tensions between Fred Lester and Operations as a former Assistant Director recalled: *He was often in conflict with the operational people who had the power base...(while he) had the statutory responsibility.* The change had been mooted a couple of times previously but had been headed off by quality control, the Director of Scientific Services' empire. As Fred Lester himself explained: *I argued against it but you're in the system and it's very difficult...* He saw the move arising out of a scheme concocted by one of the Chairmen of the committees: *They'd obviously been got at by divisional managers, who, of course, didn't like somebody poking around into their little neck of the woods.*

At this time financial pressures exacerbated the internal rivalry: *...the tensions started coming fundamentally because the Scientific Services was about spending money* (former Divisional Scientist). The other related aspect was that while Scientific Services policed industrial discharges, the WA was dependent upon income from this source and therefore wanted to get as much industrial sewage into the works as possible. In this respect Lester was described as: *...sitting in an untenable situation really being on central management...(and) accountable for meeting their standards. And also on the industrial side* (former Director Operations). After Fred Lester retired in 1983, Scientific Services was disbanded and his role was taken on by Frank Earnshaw the Director of Operations, who also took on his assistant director. This merger would serve to reinforce divisional power at a time when under threat from the MMC proposals.

In considering if the regulatory function worked, the current Principal Scientific Advisor felt that it had its shortcomings: *I think if somebody were to do an audit they wouldn't have felt that the regulatory function was being strictly carried out. If you compared the way ST or other dischargers were treated in comparison with industrial dischargers, there would have been a noticeable difference.* Similarly, divisional loyalty made the regulatory role harder as it was difficult for PC officers to be completely impartial when working directly through the divisional manager. Even the Principal PC Officer, although working for the scientific section at HQ recalls that:*...the divisional manager paid his bills, paid his salary ...in theory we still had this independent line, it didn't work* (former Senior PC Officer). This weakened the relationship with the director of Scientific Services as a former Divisional Scientist explained: *...he actually was the guy who grew up within the team in the division. And the divisional manager regarded him as his.* So, despite having a lot to contribute in terms of scientific knowledge their auditor roles became blurred. Those that wished to remain separate: *...stayed as policemen...they were very cynical, right through until*

the new river authorities were formed...and got out as soon as they could when the opportunity presented itself (former Director Operations).

Some interviewees saw this situation as a more moderate approach to regulation, involving people working together to solve problems while others felt compromised: *...my job became a multifunctional job. I wasn't purely river pollution. We did trade effluent as well...Responsibility was diluted by having to do the other arm of the job* (former Senior PC Officer). There were also tensions between the trade effluent function and pollution control: *They tried to get involved in parts of our work and they felt that we were trying to get involved in parts of their work...And at that time it was always difficult to define where one responsibility ended and the other began...But again it depended to an extent on personalities...We always had a feeling that they wanted to take over* (former PC Officer). Another conflict lay between the engineer and the scientist. The scientists often became involved in the day-to-day management of divisions: *...because they could see where the power base was. They could see operational managers getting promoted* (former Director Operations).

This time was considered by some pollution control officers as a very black period: *When we were forced into doing jobs that none of us really attempted to do.* While others:*...felt that we had a much more integrated job where we went to a site and you dealt with all aspects of water pollution.* This former PC Officer explained his differing view from his colleagues: *I was always fairly committed to the idea of the STWA...I think they've kept a purer view of what river qualities are all about.* He felt that by cooperation and making an input to the capital works that improvements would follow: *which I think it did initially but subsequently there were other factors which resulted in that not progressing as quickly.* For instance, PC officers would take formal samples of STWA discharges: *Not that we could do anything with them. But just to say "this is a very serious situation". We used to get it in the neck afterwards. We felt that...you don't cause waves like that.* This caused bitter feelings on the part of

PC officers, as one explained: *I think we always used to say we used to operate despite the organisation...simply because it was a vocation to the people who did it.*

Ultimately something would get done about works problems but as one former Officer explained: *they were very bad at taking remedial measures. It was "OK, we'll put it in our capital programme, it will be done in five years", that's it, it's finished.* Although pollution control had to be multi-experts on a number of processes they couldn't know the implications of all their recommendations*: I wasn't a sewage works operator. So I didn't know the ins and outs of how sewage works operated...We used to influence tremendous capital expenditure right across the board* (former PC officer). However, unlike the authority, when it came to industry, PC officers would expect them to take remedial measures. In summing up his feelings about regulation a former PC officer concluded: *It wasn't too bad. But it could have been a lot better. But you have to forgive the organisation in a way because it was doing what it was told to do.*

organisational response to financial pressure

The pressure for improvements to RWQ implied consents compliance which was countered by pressures to keep down operating costs as a consequence of government capping on capital expenditure. As a former Senior PC Officer recalled: *Quite often we'd get a memo come down "What are the implications of doing this" cut, cut, cut.* Very often savings were made on power consumption and dismantling plant to reduce maintenance. Some of these short cuts compromised consents which were subsequently reset, as part of the DoE collusion with the lack of capital. In this respect, the authority effectively issued its own consents under the standards at the time but there just wasn't enough cash to go round and as the authority entered the 1980s they were being squeezed very hard by government. The Head of Quality and Environmental Services explained the implications for policy: *...it wasn't clear what our objectives were because everybody was worried about "well what does it cost, well perhaps if it costs that much we perhaps ought to modify the objective."* The

short termism of the budgets was contrary to the needs of such a long term capital intensive business: *In our industry that's a disaster, it's a recipe for waste or for non-achievement of something that's quite important. That was the inside concern a lot because it created enormous hassle and bureaucracy...I think there was a sense around that things were declining* (Quality Assurance Manager).

The effect of the capital expenditure cuts was a serious decline in the sewage works infrastructure. The old plants were so bad that the civil engineering part of it was falling down and the mechanical and electrical engineering side was being kept going by stop-gap measures. As the Director of Planning related: *So the operators were living on a knife edge, just keeping the works going...the consent compliance or not was almost second.* An alternative view is presented by the former Director of Operations who saw consent failures as a failure of management at that time:...*if they'd all been better managed and had more competent operators, scientifically based operators, the works would have produced a much better effluent in its own right.* He remembers meetings over consent failures as a much lower key exercise than before privatisation: *It was so slack...but things had not developed at this stage where it was a major issue.*

Prioritising capital expenditure was inevitably a matter of deciding where to compromise as the Director of Environmental Affairs remembered: *Always when looking at the capital programme and looking at the relative priority of schemes, quality and effluent...some of the other issues you fight against were actually customer service issues, to try and get the money to quality as opposed to improved pressure...Because the argument might be "what's the point of improving pressure if the quality's not right?"* The priority system meant that drinking water took precedence over sewage and sewage treatment, including direct overflows from sewers which were simply not addressed. The money on sewerage went into flood prevention with little concern if it went into the rivers. The customer service issue was

seen to have a greater priority than river pollution with the result that: *...basically, our asset stock, both its structural condition and its performance probably deteriorated over that time* (Director of Planning). Nevertheless, intentions within the organisation were good in the face of difficult decision-making: *I think people were trying to do a professional job. They were trying to take a balanced view...it was always a compromise on the consent condition really* (Head of Quality).

7.4.5 1983 Water Act

Nationalisation was generally viewed as a positive move, it was seen as an increase in status within the authority (see 6.5). The new Chairman John Bellak, found the MMC suggestions quite useful in his new role, as he described his first impressions: *...what struck me when I came was that after 10 years there should have been a greater similarity of method...* Bellak brought with him a business culture, coming from a private sector background and business non-executive directors. The MD described the immediate effects: *He caused us to focus on long term strategies and resources we needed long term. And of course was very powerful in helping to drive through the privatisation process.* He was very political, spending much time in Whitehall and also brought a critical eye to the authority's approach to regulation: *He was pivotal ...And he said "in Royal Doulton if we make cracked pots we throw them away, we don't sell them" and what he was saying was why do we have quality standards if we don't comply...And questions started to be asked about quality and customer service and about the condition of underground assets* (Director of Environmental Affairs) . He was described by the Finance Director as more hands on: *You almost had a role reversal when the chief executive could easily have been the Chairman and our new Chairman could have been the chief executive...He wanted to be involved and he had to be involved to get to know the organisation.*

The new Board was initially composed of a mixture of old LA representatives, government appointees and private sector backgrounds; it gradually changed to be

dominated by private sector people: *It was sharper. You had a very clear route to the top. There was more sense of unity, purpose...And so there was more cohesion, more direction and a feeling that the thing would be managed if you like. One could almost physically see the organisation now* (Quality Assurance Manager). This was achieved by a new ethos of business practice and greater power devolved to the executive. As the former Finance Director recalled: *There were no votes. And the corollary of that is that the executive directors have immense powers, huge powers.* The new powers also meant directors had more significant demands made of them by the Board.

7.4.6 summary of RWQ during nationalisation

The general consensus on RWQ performance during this period was of high ideals thwarted by financial controls. Indeed, Fred Lester testified to much progress in reducing pollution, ST being the only authority that actually set a time limit on achieving the objectives: *It wasn't the authority's fault they weren't achieved. It was the government restrictions on expenditure...*(NRA Manager). The issue was rated highly because ST committed themselves to 600 or 700 km of upgrading within 10 years. However, many schemes in the corporate plans for 10 or 20 million pounds never got done. The current NRA Manager *explained: I'm sure management at the time would have liked to have done them if they'd had the money. But if you cut back you do the essentials you don't do what people consider as extras.* In addition to the restrictions on finance the ST region suffered from farm pollution which affected river quality. Although according to the NRA Manager, at the time responsible for setting RWQOs in STWA, this was not appreciated during the late 1970s. As a result the quality of some rivers was over estimated and there was always a reluctance to downgrade rivers once they had been set. He feels STWA could have made more fuss at the time to alert government to what was happening to RWQ: *Certainly through the early 80s even though they (rivers) were getting worse it was assumed they might get better.*

7.5 Convergence: Commercialisation 1984-87

In the mid-1980s it was a changing scene, from the focus in the early 80s on operating costs and the derivation of the levels of service measures, to the development of long term strategies for capital investment to ensure maintenance of the infra-structure. Then the failure to comply fully with the standards and the problem of achieving compliance highlighted the regulation issue: *I think costs became very important to customers...The game keeper-poacher issue peaked at this time, as a reason why it couldn't be prolonged anymore* (Quality Assurance Manager).

7.5.1 management and structure

Of the executive team and the management, the Chairman's first impressions were: ...*a high level of intelligence, a high level of qualification, a high level of ability and certainly devotion to the business...But with necessarily in most cases having never had a different sort of background...with still a lot more committee type decisions and a lot less individual type responsibility.* The CEO Don Reeve spent much of his last 2 years running the Institute of Civil Engineers: ...*Don probably wasn't as strong later on than might have otherwise been the case, given the circumstances* (former Director of Operations).

The 8 divisions were amalgamated into 4 in 1984 in response to the MMC recommendations: *The realisation that divisional strengths were not really compatible with the regional policy...that there were a lot of overheads...And again it was influenced by computer availability* (former Director of Operations). This was under the direction of Frank Earnshaw Director of Operations: *So at the time we were looking for centres of excellence...saying that division is strong in that area, let's transplant that across the other seven.* At the time STWA were still reducing manpower but hadn't achieved their targets so were looking for opportunities to reduce the numbers. Frank Earnshaw explained his thinking: ...*my model at the time I well remember was the Gas Board, who'd previously changed their organisation from*

more powerful districts into a central organisation. I went down to several gas boards and electricity boards to see what we could learn from them. The downside of the voluntary severance programme was its attractiveness to the best people in the organisation, resulting, in Frank Earnshaw's words, in: *A general weakening of the organisation and we'd got to stop the haemorrhaging.*

The divisions were split in two ways, into smaller operational districts downwards which were amalgamated upwards. The four divisions became the support areas for the operating districts, responsible for specific functions like engineering and planning at regional level, while the districts concentrated on operations and were the front line for the customers: *The idea of the districts was that they should focus on operating and interface with the customer as necessary, but not get more involved than necessary in forward planning* (Principal Scientific Advisor). It was also a way of reducing a certain level of support costs. The immediate effect was to diversify power into localities, divisions and HQ. But this did not reduce conflict and increase consensus: *...you had this middle tier. It was never centred. I think a lot of us felt that you had this tier which perhaps could second guess* (Director of Finance). Increasingly resources were being put into the centre and the divisional functions taken out. Within the regions the changes brought their own tensions, as one Divisional Manager found at the time: *It's all about managing people. (There was) A lot of fear.*

Ray O'Brien was appointed chief executive on 1 April 1986 after Reeve's retirement: *His prime focus was to sort out a computer strategy...I think the two things he did was to focus on that and to start recognising the importance of the people dimension. Until then it had all been about money...And Ray began to actually select key people for the future* (MD). Computing had initially been decentralised within divisional computing units. The director for computing pushed for centralisation and worked on

a strategy for putting all the divisions on one main-frame at HQ: *That was a huge change, in thinking as well as to effect* (Divisional Manager).

Gradually the functions of the divisions were incorporated into HQ in 1986 with the centralisation of non-operating support services, leaving 15 operating districts very much responsible for day to day management: *It was very clear that their job was to operate what was there. They were not there to make policy. It gave them a very sharp focus* (MD). The new business approach of the organisation was revealing itself in concerns about customers and service.

7.5.2 finance

The upshot of the financial controls was the introduction of a more commercial ethos into financial planning at divisional level. For the first time ever, each division had to produce a corporate plan for the next three years: *So that started to structure the financial economies. For the first time we were putting income against expenditure. We were starting to account on a more commercial basis... We still hadn't got a profit and loss, that was a dirty word. You had surpluses and deficits...But it was starting to realise that certain things couldn't be done because you had no income to generate it...It was quite a formative stage albeit a fairly gentle transformation* (former Director of Operations). As performance aims were the device being used by the DoE to control expenditure, ST needed to understand how they were spending money and what relative efficiencies were between the different divisions: *(It was) quite a fascinating time because we got ourselves involved in not only comparisons between the eight divisions we had, but we started comparative studies with Yorkshire Water and Anglia Water, as well as participating in the national studies which were being done under the auspices of the DoE* (Director of Services).

The implication for corporate planning was the necessity for executive coordination: *Because we were moving away from a structure that was 5 departments running*

totally independently to try and get an executive group of directors to work as a group. So the interplay was important and trying to encourage them to explain what they were planning in their area and how it interrelated with the others was important (Head of Technology Development). Despite the improved quality of the corporate planning and long term strategic thinking, the current MD describes the interaction with the Treasury as: *a bit of a charade.* The external financing limits prevented the organisation from receiving the resources to meet the long-term strategy: *You were still back with the short-term pressures, whilst at the same time pressing you to do an even better plan next year* (MD).

Bellak found the experience a sharp contrast to finance in the private sector: *And he actually got to be very upset with some of the ministers and the way they were tackling this...And he was horrified to actually find in terms of the number of parameters with which we could ultimately run the business, it was our charges and our borrowing and our capital expenditure...that each year that we were being sent by the government a sheet, which actually contained all three numbers. He assumed that we could at least set our own charges* (MD). The authority now began to question Treasury decisions more: *...we began to shape up and challenge back. And those meetings were less comfortable for the DoE. And gradually we were fighting a war there* (Director of Environmental Affairs). The organisation's dealings with the DoE were always quite skilful: *I think the Authority behaved quite well in deciding where it was going to dig its heels in and say we're simply had to have this...and probably did a rather better job than many others...Highly academic intelligence applied to everything within the company that way* (CEO). The sort of arguments which began to be developed concerned government lack of funding for the infra-structure: *And it wasn't only quality, it was on whether we were as water authorities asset stripping* (Director of Environmental Affairs).

Severn Trent Water Authority reports (1983/84-1987/88) show the organisation moving towards self financing and reducing its debt. This despite financial constraints and performance targets, explained by the current MD: *Well the way they did it was essentially to squeeze cash. So operating costs were brought down year after year...(we) brought down manpower by usually 300 a year...We squeezed our capital investment programme down and held it down and we pushed our charges up whenever we could...And so we were getting to the point where we were pushing our charges up but not using the income to finance the capital investment programme but using it to repay old debt.* The end result in the opinion of the Operations Director at that time was in his words: *...a hopeless mess. This strategy where we had two purses, one was revenue and one was capital. The revenue was a bit tight because you had to raise that from the customer. Capital was a doddle if you could persuade government to go ahead and you're only paying 5%...it did the job of revenue for you. Things like replacement of worn out pipes or depreciation were more capital orientated... which is nonsense, like maintaining a car on the road and adding on to the borrowing you needed to buy the car.*

7.5.3 privatisation debate

At the time Ian Gow proposed to privatise the industry John Bellak was enthusiastic: *Where I differed from my colleagues at that time, nine out of the ten felt it should be done precisely as it was then structured. And I being perhaps a trifle political felt that would never get past both houses of parliament.* Other organisational members with life-long careers in the industry did not share the Chairman's enthusiasm and one former Divisional Manager echoed most concerns at the time when he spoke out against it as president of the Water Pollution Controllers Institution: *I really couldn't see the point of it. And I really did feel that quality would be subordinated to profit. And that would affect the quality of our work...In fact that hasn't happened, I was wrong, because I really did feel at the time that everybody in the business would be hammered to produce more profit. And that would inevitably affect the day to day*

decisions, even at ground level, trench digging. Amongst the more enthusiastic at HQ there was anxiety about what the process involved as well as concern for the implications for a public service. Many were: *Terrified by all that went with the preparation of the short form and long form reports, and the huge amount of verification that had to go on. But conceptually the thing had been talked about and debated. So we were all attuned to the possibility and understood a lot of the arguments...a little bit of concern...perhaps putting a public service at risk* (Director of Services).

7.5.4 regulation and RWQ

The 1985 DoE RWQ Survey showed 3 percent of river length changing class positively. However, performance in achieving RWQOs took a downturn during the mid-80s. For instance, class 4 remained static against an anticipated decrease, class 3 increased against an expected decrease, class 2 remained static while classes 1A and B declined significantly against projected increases (Severn Trent Water Authority, 1975/76-83/84): *And it precipitated quite large debates both nationally and locally on government funding and what was to blame. And it was projected at the time that this was a temporary blip and the investment was in place in fact...We're in a longer term industry and you just can't turn it on and off like that. It was quite a traumatic time in terms of quality* (Quality Assurance Manager).

STWA reports and accounts also show a marked increase in pollution incidences in the mid-80s. There were various explanations to account for this. The first was that at the time they seemed like a collection of isolated incidences and it was only with hindsight that one got a true perspective of the trends:...*part of the problem is of course that information came in, you were looking at it with a two year time lag as well* (MD). The Director of Environmental Affairs explained that there were not such sophisticated means of gathering information at that time. Also, agriculture and industry were seen to be at fault, which he attributed to the economic situation at the

time: *If you are in business and the business environment becomes dicey in terms of turnover and profit, what do you try to do?* Another common perception was that STWA were getting better at detecting pollution incidences: *We took the view that it didn't always pay to prosecute. ...We did try to bring as much pressure to bear as we could. We certainly didn't turn a blind eye* (MD).

The former PC Officers interviewed did not attribute the downturn in RWQOs to pollution incidences: *It is all down, 80 to 85% of river quality in our region is the impact of sewage.* This was squarely attributed to financial constraints on the authority: *Things like saving revenue costs by reducing retention times and aeration times...but it was all set against the background of what was going on in the country. When the government told us to cut capital expenditure...it was the very big RQO strategies that just got dropped off the end...in the 5th year.* When PC Officers got together they used to exchange stories about samples being removed from the register because they were unsatisfactory: *Some of them were very poor at it. Samples used to get lost, or removed or deleted.* One Senior PC Officer at the time agrees information was an issue in detection: *It wasn't until you got 2 or 3 years into it and then you sat down at the end of 3 years and you really looked at the data you actually perceived there was something going wrong...It was so progressive and cancerous that nobody really cottoned on for a bit.*

The authority was now becoming careless due to transferring costs from revenue to capital. The increase in capital demands meant things like maintenance became a capital issue. As the Director of Operations at the time explained: *So that was one of the things divisions started to play rather well...There was greater pressure on the capital resources...On the whole, I don't think we did a very good job at that time. I think we could have done a lot better if we got government to recognise better management, better maintenance and more stringent resolution standards.* One of the things which STWA cut back on was sewerage: *There were pipes in the road, these*

were things that had been put in donkeys years ago and some were in a state of hopeless collapse literally, structural collapse (former Director of Operations). This, he explained, had implications for the maintenance of storm overflows and hence the quality of the water which then ran into streams: *That was all academic at that time. So if all you did was reduce your expenditure on maintenance of sewers, rather more came over the storm overflows at places you didn't want it.*

COPA II

The introduction of COPA II in 1985 meant a great emphasis on getting works to comply with their consents. PC officers felt COPA II had an adverse effect on performance related consents although it made the organisation aware of standards: *All that tended to focus people's attention and get reporting procedures meshed in together* (Senior PC Officer). Having been set at their current performance, if the works didn't comply, there were two options: either to spend money, or move the consent. If it were deemed that the resetting would not adversely affect river quality, then money could be reallocated to achieving tighter standards at other works where river quality would benefit and the RQO might have been achieved. The Principal Scientific Advisor believes STWA did it in an extremely correct way. He cites the example of works which might be performing to a tighter standard than was required to meet the RQO and in setting them to the capability of the works, the COPA review established unnecessarily tight standards. In some instances works started to fail after a few years because they were then not allowed to review their consents: *...because of HMIP's attitude we were then locked into investing at keeping that, really arbitrary, initial standard.* Thus COPA came with a mixed blessing: *I think in the pollution control area from 85, compliance with the consent then in place assumed a major priority, a major importance. Whether it was an appropriate consent or not* (Principal Scientific Advisor).

The prior cost cutting measures had to be readdressed eventually as one former PC Officer recalled: *They suddenly realised they'd made a bit of a mess of it...And they started reinstalling parts of the treatment plant which they'd knocked out. And really, it was just bringing it back to where it was before. I don't particularly blame Severn Trent anymore than I blame Anglian WA or any others. It was just a cost cutting exercise. And you couldn't do anything about it.* He conceded that those working in pollution control had high expectations about what the authority could achieve: *Pollution control people wanted I suppose, their cake and eat it because if we saw a sewage works was capable of producing twice as good a quality effluent we wanted twice as good a quality effluent even though perhaps the river didn't necessarily need it that much.* And similarly on the issue of consent limits, they always tended to treat those as an absolute standard. This was in contrast to effluent quality planners who saw it as highly variable and subject to a lot of extraneous factors apart from sewage. PC took this stance also because of the public register: *It was this panic that they were going to prosecute.* Environmentalism also had an impact in the mid 80s with a great input by pressure groups such as Greenpeace and Friends of the Earth. The environmentalist cause was also helped by the public register which now became, in the words of a former PC Officer: *A wonderful private service to them of taking samples and analysing them at great expense and giving them the information for nothing.*

The downturn in achieving RWQOs during commercialisation was slow to be realised because of the gradual nature of the decline and lack of sophisticated data gathering techniques, but also due to a lack of willingness to believe that it was permanent: *I think we generally did regard it as a sort of fairly temporary hiccup. When we knew there wasn't room for much expenditure. And I suppose we didn't know how long it would last* (Principal Scientific Advisor). Also, given the post-war investment in sewage treatment which had made major improvements to river water quality; subsequent improvements were always going to be more incremental. As the NRA

Manager for Severn Trent explained: *The next step was always going to be more difficult - to go from that point to what was then the long term objectives. I think it wasn't quite appreciated that it would be difficult when they were originally set...Then the restrictions came in on capital expenditure. Schemes that were put into the corporate plan were never implemented...And then in the end that had a cumulative effect and RWQ started to deteriorate...*

7.6 Recreation: Privatisation 1987-89

Preparation for privatisation began in 1987 and largely involved considerations of finance: *The privatisation process was very drawn out and involved us in ensuring there was going to be adequate finance available, after privatisation to fully finance all the capital investment that was necessary* (MD). This exercise made the company realise that during the period of tight monetary constraints they had squeezed the capital investment and operating costs below the long term sustainable level and certainly below the level that was necessary to meet standards in Europe.

The process of preparation was considered a hugely complex process and involved discovering new requirements with increasing momentum: *...first of all by the week, then by the day, then by the hour, then by the minute in the period over the last 12 months, leading up to the final spitting on the hand and shaking of the agreement with government as to what our financing would be* (Director of Environmental Affairs). A fortune had to be spent on meeting all the standards of sewage works, driven by OFWAT requirements. There were levels of service targets to meet and detailed analysis was carried out of all assets.

7.6.1 management

Rod Paul was appointed CEO in February 1988 with nine months to go before privatisation. His impression on arrival was of a dedicated but closed management

team: *There's a funny sort of culture of patting you on the head in this organisation. When I arrived, the existing duopoly of power, Frank Earnshaw and Colin MacMillan, suggested that for the next 6 months, they'd run the business and I would just learn.* Needless to say the offer was declined. He found that unless he insisted on knowing the details of the decision making the information would be withheld. This was particularly so for big operations decisions like those involved in building Carsington dam. The previous CEO hadn't requested such information and it was a change for directors to have to explain their reasoning to Rod Paul. For the operations directorate in particular, that was a cultural change they had to understand.

However, he was to find that both the directors of finance and of operations were key individuals within the organisation and vital in preparing the company for privatisation given their intimate knowledge of the workings of the company: *I think we probably had one of the best teams in the ten companies.* The Chairman's political contacts, particularly with Nicholas Ridley, were also helpful during this period, as he confirmed*: I think during the privatisation period Nick knew that I was supporting his principles and therefore he was prepared to listen if I had a particular point to make.*

7.6.2 culture

The culture of the organisation, even at this late stage, still retained many elements of the public health ideology identified in chapter 6. For instance, a very big part of the organisation was an intellectual approach to all decision making. It was cumbersome with much time spent evaluating all the possibilities which had to be changed fast: *...we started to call it fast track, or standardisation and (there were) all sorts of things to get over it. So it's a big cultural change from that point of view.* There was a tremendous inability to delegate which the new CEO took in hand early on: *As far as I was concerned I don't want a committee decision, I want a name. And so we had to go in for a delegation instrument, showing at what levels we could make these decisions...That's changed a lot now. That culture is still partly there but these things*

die very hard. Another issue was the feeling of a fairly wide democracy in the organisation with a lack of compartmentalisation of activities and no team working. This did not become a feature at headquarters until after privatisation: *The big change came really with the end of that generation...and a new team led by Roderick Paul coming in from the outside, and progressively new directors coming in and a new culture* (Deputy MD).

The period up to flotation was quite short to deliver all that the organisation needed to enter the private sector. The constant changes during the 1980s meant people began to adopt a mentality of always talking about the next development change: *There was this open discussion about what might happen next. It was very disturbing for the people in the organisation.* There was one more change made after Rod Paul arrived which rationalised the regional structure further, and it was then announced there would be no more changes for at least five years.

7.6.3 finance

As the level of capital investment in the mid-80s was not going to meet the EC directives an important exercise undertaken by the finance director was to identify all the stakeholders relevant to their company in the private sector. The Finance Director now began to approach the external financing limit (EFL) from the perspective of performance aims: *One of the things that I think that I can claim having introduced, which Vic took up with government, is that an acceptable level of service is usually seen as a subjective judgement...What isn't subjective is what is unacceptable...So all our capital schemes had indicators which began to drive the expenditure to reflect the elimination of something which was unacceptable. And it was moving, and Severn Trent was the forerunner of that, it underpins a lot of Ian Byatt's thinking today.*

In devising their asset management plans (AMP1) one of the main strategies of ST was to get as much as they could in the first five year capital programme so that they

didn't have as much to negotiate in the next five years. The then Director of Operations was daunted by the task: *I well remember at the time arguing that we couldn't expand fast enough to carry out the plan that we'd done.* The capital programme was being completely reshaped by the now Director of Environmental Affairs: *I was going out from the centre, particularly on sewage works, effluent compliance issues...at HQ we understood the priorities that were building... Because we couldn't actually form a private company that was breaking the law...* For people out in the operating divisions this was a change which was difficult to understand, even after managers had seen the strategy: *...because there was a credibility gap between the thinking and the thrust at HQ and the divisions.* This was an example of the tenacity of the PH ideology. One particular change which was emphasised within the organisation was the fact that in the public sector, directors lived in a risk-free environment. For instance when Carsington reservoir fell down the Finance Director wrote off 30 million pounds in the accounts: *If I'd been in a plc a) I'd have lost my job and b) the company's shares would have plummeted. And the Chairman would have gone.*

7.6.4 regulation and RWQ

Privatisation had quite a startling effect on people in terms of regulation with the realisation that the organisation were doing things that were illegal. STWA had to achieve 100% compliance by privatisation or seek dispensation for works: *...there was a considerable amount of stress with this in the organisation. But it focused people on what needed to be done, not a series of tasks that may or may not achieve the output* (Rod Paul).

No one could tell the CEO how many of the sewage works were meeting their legal consents or what the legal consents were. Then, just when they thought they had established them, the Director of Operations dropped a bombshell (often recounted) by revealing there were volume consents as well: *Prior to that nobody bothered about*

volume consents, it was just figures in a book (former Director of Operations). These volume consents had originally been set by Fred Lester and his team, who had ambitions to get all river quality to a standard like their previous success with the Tame in the RA days. The complexity of the consent system had meant that even long serving members of the organisation were not familiar with the extent of them, as the Director of Planning revealed: *I didn't appreciate until about a year before privatisation... that basically every one of our sewage works consents not only had quality parameters...it was also volume related...Somewhere approaching a half of our larger works were actually exceeding the volume. So on a constant load basis the quality parameters should have been tighter to compensate for the higher volume. We're only just about working our way through that.* The volume issue was as much about lack of finance as a pragmatic problem, to do with the device required to measure the volume. This interfered with the natural effect of gravity being relied upon to push the sewage through the system and necessitated pumping costs.

With only six months to go before privatisation, STWA adopted a policy of no recriminations to achieve consent compliance. As Rod Paul explained: *...if there was something wrong just bring out your dead...I said "up to privatisation all sins are free, let's know about them and handle them"...So I said to Frank "there's nothing fair about this but any sewage works supervisor whose area of responsibility it might be...that meets their consents in the financial year will get a bonus of a thousand pounds. If they don't, he won't."* Other WAs did not have these volume consents and so the pressure on STWA to comply in the run-up to privatisation was great: *We thought we'd inherited a real bag of worms with this, because we suddenly were faced with having to meet standards which previously had been treated as academic* (Director of Operations).

Despite being considered very unfair, a great many works started to meet their consents. Most of the operatives had known some part of the consents of their works,

others didn't and very few knew whether they were actually meeting it. The effect of the new policy was swift: *As soon as the manager was on a bonus, they all knew, in fact it actually almost became an item of stress in the organisation* (Rod Paul). People knew that when a works failed it came to the CEO's desk. Various tactics were used by operators at this time to keep works within consent and save money, for instance using an onion bag from the greengrocers to act as a filter when the works were blocked. Similarly when an arm failed because of a faulty driver, an electric motor was bolted on the outside and held by a big elastic band. In Rod Paul's words: *Anything to make it go even though the money needed spending. It's got to work. Don't bring me any excuses...*

The COPA program which ran from 1987 included some RQ improvements but mainly schemes at a lot of works to achieve compliance. This brought with it the usual doubts about best use of capital and the senior Effluent Quality Planner stated that a better investment could have been made in targeting works which might achieve RQ objectives. A similar view was expressed by one former PC Officer that compliance with consents didn't necessarily bring about improvements in RWQ: *Apart from the fact that you then start to comply. And it looks good.* RWQ was a great matter of concern at all levels of the organisation, particularly in terms of the new commercial ethos: *That was one of the measurable outputs that was understood* (Rod Paul). The outcome of having to achieve such high standards meant STWA had them in place ahead of the other utilities, as the former Director of Operations explained: *Yorkshire for example were much more relaxed in terms of dye stuffs. But in point of fact it's turned out to ST's advantage because they've now done most of the work, or basic work. Whereas others are still doing it. And (with) the present game of regulation, I think their shareholders are going to suffer as a consequence.*

The CEO did not agree with the independence of the WQ Panel because he felt it confused the responsibility of management and the Board to have an advisory body

telling the organisation what to do. He felt that all recommendations for quality should have come to the Board: *So it was about bringing it back into the overall management organisation.* This involved clearly telling the panel that responsibility lay with management for investment decisions:*...and that was threatening the power of the MAFF representatives in particular, on that point. (They were) two of our directors incidentally.*

NRA unit established

STWA set up an NRA unit in 1987 to prepare for the experience of working with the new regulator: *We did it before anyone else did...because we felt we had to learn how to live with it while it was still within the organisation then we could sort of manage the boundaries of it* (Rod Paul). Initially there was a degree of tension engendered by the split, as one former PC Officer recalled: *Relationships as a whole cooled very rapidly to begin with. I think the water company were concerned that straight away we were going to start to pillory them.* This led to a degree of defensive behaviour: *There were all sorts of things said like "the people who can't make it in the privatised company will be the ones who" you know...* For the NRA's part, they were annoyed about the 12 month amnesty given to the utilities before they had to comply. With hindsight the Finance Director saw extreme attitudes on both sides: *We tended to get preached at a little bit because they still expected us to play a minor role in the partnership...On the pollution control side there were people who suddenly had the freedom...and thought they'd get their own back...generally I don't think there was a problem.*

In many respects this alternative public sector organisation was seen as a help to absorb all those staff who didn't want to work in the private sector. This was as true of pollution control as land drainage and planning resources people who hailed originally from the old RAs: *There were some individuals in the organisation who all the way through the 70s and 80s, put their prayer mats out every night and hoped that the*

river authorities would be reestablished. So when the NRA came along they just felt they were back in the environment that they wanted to be which was a confrontational one...And so for them the cultural change was a relaxation into a previous life (Director of Environmental Affairs).

7.6.7 summary of regulation in the public sector

The advantage of IRBM according to Fred Lester was that there would be input into the needs of the river at the planning stage. But this input could always be deferred due to other priorities: *So you can't always in IRBM arrive at the best decisions so far as the quality of water is concerned on the river...I think it was a phase that was probably worth going through.* Self-regulation was seen to encourage underhand practices and there is the strong belief that the public sector has always got an excuse for its mistakes. As the former Finance Director noted of divisional practices: *We always achieved river quality because we took the samples at the right time.* In contrast, the private sector has the advantage of an independent regulator to measure levels of service to protect the customer: *As John Bellak said frequently, "you never find a private sector company breaking the law, they don't, cause they can't. And public sector have always got reasons why they do. And they do."* (former Finance Director).

7.7 Convergence: The Private Sector 1990-94

The issues have changed since privatisation, previously finance was a priority and quality was 4th or 5th. Now quality is ranked alongside finance: *One follows the other whereas before it was standards following finance* (Head of Quality and Environmental Services). Severn Trent in the private sector is increasingly focused on outputs: customer service, quality and the intermediate outputs around the quality of business processes which drives efficiency: *Still controlling the operating costs, looking to grow the income line...and for that we're one of the first companies to*

employ a director of marketing (Director of Finance). Capital investment is now made on a long term basis with the aim of a return within a good timescale of planning. The change strategies implemented by the company since 1989 have had a considerable impact: *They are having infinitely more effect on the company than privatisation as a process* (Director of Services). Also many interviewees noted that customer perceptions were seen to change over night and expectations grew because they were in the private sector, along with the shock at the scale of profits.

7.7.1 policy

Severn Trent have a vision statement which gives their aims as care for customers, shareholders, employees and the environment. Before privatisation the organisation treated customers as consumers:...*because we knew best if you like. Although the emphasis on being guardians of public health has not changed...It's historical and I guess it will continue within the ethos of the company* (Director of Environmental Affairs). The perceived negative reaction of customers to privatisation led Vic Cocker to position the company as a customer service organisation: *We've just about realised that we are a customer service business...they may not have a choice but they do have a voice. And it's up to us to deliver* (Director of Services). Added to this is an environmental slant, the responsibility of the Director of Environmental Affairs who is responsible for the group environmental policy and meets environmental pressure groups locally: *Nationally pressure groups run campaigns. They usually run them on misrepresentation of the data that we provide them with...This is the reality of the framework that we live with.* Being an environmental business has meant retaining a sense of proportion with the entrepreneurial ethos: *I always say to people don't forget we ask people to drink our product...we're not in a risk business. And we don't want to employ entrepreneurial wild people who are taking risks...Our business is a major environmental business and you're in the business of being safe* (Rod Paul).

Essentially although perceived as an environmental business, it is customer driven: *It's all about delivering the right quality product* (Head of Quality and Environmental Services). The company has met all its obligations agreed with government in 1989 and have delivered improvements in customer service as measured by the DG. The customer focus has also spilled over into notions of competition: *Competition for the hearts and minds of customers I think is more important to us. Getting them on our side...all 8 million of them* (Finance Director). The customer service focus is also evident in executive responsibilities and titles within ST. Whereas prior to privatisation it was assumed the customers took operations for granted, now in order to emphasise their customer service orientation, the Director of Operations (also Deputy MD), has the title of Director of Customer Service. In this way, billing was also brought into operations to close what was seen as a gap in the organisation.

Just prior to flotation, ST created a Quality Assurance department on the basis that quality was going to be a key issue: *So my department was created to ensure the company had a focus on quality and never lost it. And I'm independent of the operational departments of the company* (Quality Assurance Manager). ST have thereby created their own internal regulator, in this case responsible for drinking water quality. The company is now developing a total quality ethic, such that, given the high levels of standards compliance they are now focusing much more on the failures. This has resulted in a progression from managing the conformance with standards to that of business process quality, focused on delivering better customer service. As the MD elaborated: *And we are, I believe as an organisation, now transforming ourselves to be a much better utility. And one in whom the customers can trust...We call it in our organisation "working for quality". That's our brand name.*

The MD is very insistent that the company works harmoniously with its regulators: *We've always taken the view that regulation is a necessary requirement of being a monopoly business. That it is important to have positive relationships with regulators.*

He feels that while the influence of the regulators is generally positive he is critical of the collective pressure applied by the NRA and DWI to drive up customer bills: *There is still a tendency for individual regulators to be concerned about the particular pressure groups they face, without recognising that we have become a customer service business.* However, despite the general feeling within the industry that the amount of regulation is too overbearing: *I still think it is a price worth paying for the freedoms that we have...* (MD).

7.7.2 management and personnel

The former divisional structure had power because management neither had control nor the parameters within which to guide action. The staff are now empowered within specific parameters and therefore more easily managed. The organisation is also much more cohesive due to the restructuring which separated out the support functions from divisions. There are now systematic management practices operating from coherent sets of rules and aimed at producing more standardised approaches with clearer roles and responsibilities.

The five year plans indicate the outputs to achieve within the organisation, including regulation requirements and growth targets driven by dividend needs. Managers are given targets and their pay, including that of the Director of Customer Service, relates to achievement. Bonus schemes and performance related pay, even at the lowest levels, have been locked into achieving compliance and critical success factors. The Director of Customer Service explained: *We have carried that right down to the chap who is operating the works. And a proportion of his pay now is related to outputs of that water treatment works.* Tolerances are predetermined and 10% of basic pay is related to those outputs. They have identified 20 or 30 parameters on the craft process side for the different activities which measure quality delivery. This is now being carried over to the non-manual staff side, initially on measures of team performance. There are already in place self-imposed and regulatory imposed parameters,

guaranteed standards such as responding to customer enquiries within a pre-determined number of days. Ultimately ST are building up a measurement hierarchy to determine how these will be achieved: *Every individual will know what their job is, what the skills are that they are expected to have...So (it is) quite a fascinating move and it has not been easy, it's taken about 12 months longer than we thought it would* (Director of Services).

ST claim to be ahead of any other company in the area of performance related pay which took 2 years to negotiate with the unions: *The trade unions were against performance related pay and the culture of public sector unions in the organisation was very strong, it isn't now* (Rod Paul). The prevalent belief is that policy goals are attained only through their people. So people have to be given the training and development to be "empowered", and as the Quality Assurance Manager explained: *I think the customer gets a better service.*

This positive view is countered by the perceptions of the former Director of Operations who does not believe in an organisation-wide commercial ethos: *You will find a lot of people haven't changed they are still doing a job...sometimes with a lot of gloss on it. A lot of people now have recognised their role is to make a profit...and they are commercially orientated but for every one of these there must be five others that are content to do the job they did previously.* A major concern of employees is the reduction in staffing which continues to decline: *So although we've managed the numbers down, right sized as opposed to downsized, it's been done in a fairly humane and caring sort of way which we do say in our visions is one of the things that we aim to do* (Director of Services).

7.7.3 finance

The whole process of capital investment has been radically changed and the Head of Quality and Environmental Services admits to surprise at their own achievements:

When we jacked foreign investment from £250 million to £600 million I don't think anybody actually conceived that could be done as quickly as it did. This was achieved by having a professional management investment system in place. Capital appraisal schemes are radically streamlined by a screening committee who approve most schemes apart from the big projects which go to the Board. The focus on investment has changed from how to make the money go round to how to ensure that outputs are achieved out of the money allocated: *The other thing which came with a great bang was depreciation...which starts to make quite a difference in terms of balance sheets and accounts. So the type of development started to become important in the sense it had a depreciation value* (former Director of Finance). In the early days with the highly ambitious investment programme the concern was with ensuring the money was spent. Now this has changed to a focus on income, income generation and income recovery.

The response to ST's first announcement of £200 million pounds profit brought adverse reaction from the public, despite it being a surplus which had to be put back into the business, as the then Director of Operations explained: *This was a simple change from surplus to profit. So we became aware of the sensitivities... When we announce the profits we are going to have to be very careful to satisfy the shareholder and the consumer...it's a delicate balance.* The other dramatic change was that for the first time ever, people in the organisation realised they had to make a profit. Under the Treasury accounting system capital was free and operators became good at controlling operating costs because their bonus depended upon it. Now organisational members have to get used to being judged by achieving the required outputs within budget and take into consideration the cost of capital when deciding upon operating solutions. The only difference from any other private sector company now, is that capital expenditure is not so much profit related as related to quality objectives which are paramount in order to retain the company's license. There are relatively few quality

objectives which have a straight forward profit and loss calculation attached to them, although the principle is the same.

7.7.4 future of the business

The business has been growing initially from quality, mainly improving assets and productivity which will flatten off. Indeed, it is already tapering off in terms of growth. This leaves ST with more skills available to use in related activities. Having considerable skills as an operator, the company is looking for opportunities to run other municipal facilities as a contractor, in Europe and more significantly, North America.

The diversification strategies have been less easy to assess in terms of company benefits and are not the utility's responsibility. The company has tended to acquire relatively small technology companies relevant to the water industry, in the hope of transplanting new technologies into the organisation. But there have been problems in getting the core business to recognise and live alongside a commercial enterprise, as the former Director of Operations found with the first acquisitions he managed:...*they were highly suspicious. The core business found it difficult to reconcile that people in the commercial sector are in a risk situation and are compensated accordingly and have different views about pushing their product.* This didn't work out as well as he had hoped. The difficulty for the core has been living with this relationship.

7.7.5 regulation and RWQ

The company has now developed a highly refined knowledge of all its assets. They have completed computer systems of all their consents, 5 to 6,000 of them. For example, for each works there is a plan in the database showing the current consent, load growth, the likely future consent, quality achievements, other regulatory drivers, the costs of moving from where they are now to further improvements and the timescales. The Head of Quality and Environmental services described the results: *So*

I can now give you works by works, the cumulative cost of every bit of the waste water directive. Such sophisticated information systems allow for efficiency planning which has become part of the management culture. Today ST meet 99.7% of consents on over a thousand works, as the Director of Customer Services explained: *I think as of today we've got 6 minor works that haven't met those standards over a 12 month period. That's the sort of margins we are working at...Achieving that degree of compliance with standards is about managing your people, managing your plants, managing the investment...*

RWQ performance

The 1990 NRA river quality report based on triennial averages demonstrated a net 1% improvement in the length of rivers changing class between 1985 and 90. This was compared to a 3% improvement for 1980-85 indicating a slowing of that trend. The improvements that there were are attributed to improvements in sewage treatment between 1985 and 90. The report highlights that since the 1985 survey the rivers were remeasured and the total length reported increased by 570 km. The changes are therefore a retrospective correction of the 1985 survey. The length of class 3 river was underestimated in 1985 and about 170 km of the new extra length improved in quality from class 3. If the old incorrect, lengths had been retained in the 1985 and 1990 surveys, the 1% net improvement would be transformed into a 2% net deterioration (National Rivers Authority, 1991a).

This report showed the worst period when ST were only beginning to spend the capital on quality improvements, particularly on effluent, as the Director of Environmental Affairs explained: *At one stage we had a program of £450 million of expenditure. It was not being seen in the 1990 review. When the next one is done in 1995 it should show.* Currently the NRA are changing the classification system which may have a significant effect on river quality, as the Director of Environmental Affairs explained:...*you have only got to have a marginal change at a few very large works,*

on effluent quality, for it to have a material effect on a big chunk of river. ST will be dealing with the RQOs set in 1979 until the next century. There was an initial horizon of 15 to 25 years, but some of them may never be economic to achieve being a case of diminishing returns. The attitude within ST is exemplified by the Director of Finance: *Why should we have to spend 2 billion pounds over the next 5 years on further marginal increases in our standards when quite a lot of our customers are not interested? Because you can't see RWQ.*

regulation

The new approach to regulation is to make personnel at all levels responsible for quality in the same way they are responsible for customer service. The Chairman compared this with the approach in the public sector: *The danger of the old system was the quality committee and the quality operators thought themselves somehow separate from operations. Now one can see why they got there and the fundamental motivation which is an audit motive is an important one but you allow them to lose responsibility.* Most districts have liaison meetings with the local NRA on day-to-day issues while planning for future improvements is conducted at HQ.

The company has reached an understanding with the NRA as to what they are delivering and a clearer picture will emerge after 1995. The goal is to agree a spreadsheet of standards for all works which will provide a planning base into the year 2000. One area of conflict between ST and the NRA concerns the focus of ST's investment programme. In 1987 a reclamation strategy was developed which became the basis of their privatisation and concentrated on asset renewal work. This type of output does not provide the NRA with anything measurable and they are often not in agreement about the choice of works under renewal, particularly when they do not achieve the RQOs the NRA regards as a priority. Another area of conflict is over the setting of consents to minor water courses: *There it comes down to very much personal opinion as to what is an appropriate limit...The issue is, is this particular*

ditch...worth the money? On those sort of occasions you get a tremendous divergence of views as to what is appropriate (Principal Scientific Advisor). One tactic ST uses to negotiate with the NRA is not to argue the case of individual works, over which very pure views can be taken. They have found that a more powerful argument is to look at all the works together and involve the NRA in prioritising.

The NRA have four regional areas within ST which they have noted the company playing off one against the other and applying political pressure when they attempt to formulate a prosecution. However the regional Quality Manager feels relations at his level are quite good: *When it's come to the cost of quality programme ST seem to be quite keen to include RWQ improvements in their future programs...They want to achieve everything that we want them to achieve, perhaps in a slightly longer time scale.*

The economic issue is the key ultimately, with decisions having to be made as to whether the highest standards are worth the extra capital. It is essentially a question of balance, according to the Director of Environmental Affairs: *...between two sorts of customers, the ones who are paying and the ones who are trying to drive the standards up, the NRA.* There are tensions between the regulatory bodies due to the different customer requirements. ST's market plan showed customers were keen on certain standards like drinking water quality but not on spending money on the EC wastewater directive. The ultimate tension is between ST and OFWAT when it comes to negotiating the price for achieving quality standards. The DG will be making inroads into profitability by demanding efficiency improvements as well as changing the financial ratios upon which the company was set up. But these tensions are viewed positively by the Director of Environmental Affairs: *...out of that ought to come hard justification for improvement from the regulator on the quality side, and a hard commercial approach from us, as to how we are going to fulfil these requirements, keep our customers happy and do it for slightly less than the Director General has let*

us have so we can make an honest buck. So the tensions can be constructive. When they become destructive is when one of the regulators tries to secure the moral high ground of the general public and blackmail the others.

The availability of capital has been the key to unlocking quality improvements as well as the freedom to decide within certain parameters how this might be achieved. The NRA can prescribe standards for works which is the company's responsibility to then build and maintain. But there is also an acceptance of responsibility by the regulator: *The minute he starts to prescribe the plant to put in, he accepts responsibility for it performing* (Director of Environmental Affairs).

As a private sector organisation with an emphasis on costs, a moral dilemma is posed by the issue of running works consents at a higher than necessary standard because of concern for the river: *Whilst before the general culture was to get the best possible effluent into the river. The fact that you weren't paid for £30,000 worth of cost by achieving better than standard was irrelevant, it isn't any longer* (Rod Paul). If an operator sets the standard at higher than the company is being paid for, the regulator can come and tighten the works to that standard and the company will never be paid for it, as Rod Paul explained: *Now your operating costs are pegged at that level, then you haven't got any option but to live with them.*

Pollution is not now the company's prime responsibility but they have a direct interest in promoting pollution control to protect their drinking water catchments. One of the things being done to promote awareness has been a big campaign on pesticide pollution of drinking water sources. The Head of Quality and Environmental Affairs explained the reasoning:...*because it directly affects our bottom line. If we can get it down we don't have to treat the things and we save money.* So the incentive to be green is both social and economic. This stance is viewed as the organisation's coming of maturity as well as public positioning: *We're trying to position ourselves as a*

professional cost effective organisation which provides an environmental service to the community. They are clear that their position is not to set standards but they do have a view on the standards which are practically achievable: *The costs should be proportionate in the sense that their not diminishing the benefits* (Head of Quality and Environmental Affairs).

In terms of comparative competition, ST rate themselves equal on drinking water quality alongside other companies which is a fairly even playing field. But in terms of quality achieved against current standards, they are in the top 2 or 3 and in terms of price of the product to the customer, the bottom one or two. ST has a high opinion of its compliance with consents but feels that it has unfair competition in that it has many higher standards to conform with than other companies. Their Business Planning Manager explained: *For example Oxford is a big car manufacturing town, the sewage works there has no metal consents. Whereas, virtually everyone of ours...in the metal bashing towns...have those consents.* This is partly attributed to the different policies within the NRA regions. Another related issue is the potential loss of trade effluent income from industry who can threaten to move to another water company area where standards are lower.

Severn Trent's Environmental Director summarised the feeling of the organisation towards regulation in the private sector: *But the regulation is the key isn't it? I think that we've now got it the right way round. it's far better to have an independent body than all this fuzziness round the edges... And we are essentially environmental contractors as far as the NRA are concerned.* Prior to privatisation quality was not a central issue because the organisation was a hybrid and those who acted as the regulators took quality as their priority. So it remained an important adjunct but not a central focus. It was part of the big master plan for integrated planning which was necessary at the time. As the company prepared for privatisation quality became a central issue, alongside cost and most recently customer service, making three focal

planks: *So we have got to continually drive down the costs, continue to drive up customer service and meet the right level of standards provided they don't infinitely carry on improving quality...You hit whatever highest standard is appropriate and then you stick at that* (Quality Planning Manager).

7.8 Conclusion

A pattern of organisational development can be discerned within Severn Trent whereby each period of convergence attempts to fulfil the goals of the preceding change period. Thus the integration phase was attempting to standardise working practices. When this was frustrated by the politics of decentralisation, the changes brought by the MMC during nationalisation set in motion a centralisation process during a period of commercialisation. It was not until a private sector ethos was adopted throughout the organisation that it could once again embark upon a process of decentralisation. Organisational members, past and present, have shown a high degree of self consciousness about the developmental phases and there is a general feeling that these were necessary shifts in development in order to move from a public sector organisation to a private one: *When I think of some of the working practices and things we had it's just amazing, we're a different world now...We're not just four years down the road, we're 400 years in my view* (Quality Assurance Manager).

The pace and rate of improvements in RWQ have been influenced by the history and geographical location of the Severn Trent region. The unfavourable confluence of geography and manufacturing created heavily polluted rivers which had received positive attention prior to the formation of STWA. The personnel responsible for river improvements were absorbed by the new organisation and they placed a high priority on improving the very poor sewage works inheritance. In addition, being the only inland authority in the country, STWA had from its earliest beginnings a history of attention to river pollution and sewage treatment. It was the economic pressures

during the last years of integration which slowed the pace of change. These pressures also served to heighten the different views of the regulators and operations personnel, as articulated by the Principal Scientific Advisor who took the utility standpoint in his view of developments: *I think some of the people who had been involved in the 50s and 60s were perhaps a bit frustrated because they felt the pace of improvement had slackened. But, I think that's almost inevitable...You start having to look fairly carefully at what further investment can be justified.* As quality became overshadowed by financial considerations into the 1980s, so did the attitudes of regulation and operations become more entrenched, enhanced by internal structural changes. The politics of the organisation at this time also undermined the quality issue and marginalised it on the strategic agenda. With the advent of privatisation RWQ gained in ascendancy as the organisation became concerned with abiding by the law. Within the private sector RWQ has gained respectability as one of the three focal issues of the organisation although performance continues to be subject to financial considerations.

8. THAMES WATER

I dined at my Lord Keepers who treated me with extraordinary kindnesse, setting me the very next to him, and after dinner carrying me into his Withdrawing roome, we discoursed together of divers Philosophical subjects, as the Nature of Water, especialy, that of Thames, That onely, and the water of a river neere Bantam and the East Indies being of the same nature, to putrifie, and grow sweete againe, and is for all purposes the best we have in England. John Evelyn, 1683

8.1 Background

The Thames region was the one to fit the concept of integrated river basin management most elegantly being quite simply the area drained by the river Thames and its tributaries. The Thames has shown a significant improvement in quality since World War II, largely due to investment carried out in the 1950s and 60s: *I don't think, to be fair, the Thames has ever been a disgrace. It was a disgrace before the war and immediately after. But after all the improvements at Mogden and Crossness and Beckton...it's never been anywhere near as bad as many other rivers in the UK...That was down to the Thames Conservancy* (Planning and Support Services Manager). Improvements were largely attributed to local authority investment, even the notoriously polluted Thames tideway had been improved by the GLC which stood the new TWA in good stead at their formation: *...we by and large were inheritors of a pretty good inheritance. The Thames has always been a pretty clean river, there has been a better control system on the Thames Valley than there has been on a lot of Northern outfits* (Deputy Chairman).

8.2 Emergence: 1973 Reorganisation

The TWA occupied a special place in the reorganisation, being the largest WA in population and resources, it served a population of 12.1 million, about 25% of the population of England and Wales and because it included London. It embodied old and prestigious organisations, including the Thames Conservancy, created in 1857, the Metropolitan Water Board, created in London in 1903 and the GLC. TWA took over the assets, staff and responsibility of 200 bodies. It covered an area of 5,000 square miles and employed 12,000 staff: *With its HQ in London, the TWA is*

bound to be the cynosure for all who may be interested in water management throughout the world (Okun, 1977:147).

8.2.1 management

Like Severn Trent, Thames' initial start was influenced by the inherited large monolithic bodies from which many of the elected members and staff were drawn. The Chairman Peter Black was an engineer by training and had been a member of the Middlesex County Council and closely associated with Mogden works, responsible for the clean up of the Thames a decade before, as well as Chair of the GLC committee responsible for sewerage and sewage treatment. He had been a member of the MWB, PLA and Thames Conservancy.

The initial staff of TWA, before any permanent officers were appointed, included six officers seconded from MWB, the Thames Conservancy, and the GLC. This utilisation of personnel from these three massive agencies was to continue with the selection of permanent officers. The Chief Executive and Director of Resource Planning were from the GLC, the Director of Operations from the MWB and the Director of Finance and Scientific Services from Thames Conservancy (Okun, 1977:149). Thus did key personnel bring with them the culture and knowledge of the former established organisations.

TWA started with 52 members in August 1973, 36 elected members and 16 (later increased to 22) appointed members, which operated largely through its committees with considerable dependence on its officers. The key players in the corporate management team were: Alex Morrison, CEO; Eric Reed, Director of Operations; Colin Sinnott, Director of Corporate Planning; Eric Gilliland, Director of Finance and Hugh Fish, Director of Scientific Services. A three day retreat for the corporate management team, divisional managers and certain committee chairmen was held in January 1974 at Tadley Court, the administrative centre of the water supply

industry Training Board (Okun, 1977:148). Alex Morrison described the organisational structure of nine divisions. Considerable discussion on the management of divisions revealed disagreements early on. Hugh Fish and Dr Sinnott disagreed with Morrison on the lines of communication: ie whether it be through the Director of Operations to divisions or direct to division staff in functional areas, thus indicating at the very earliest stages the inherent tensions between operations and the other directorates.

In the end, assistant directors were assigned to the central and western regions, incorporating five divisions in total and they reported directly to the Director of Operations, while the divisional managers of the `old three' reported direct to Eric Reed. Another assistant director of operations, charged with the responsibility for new works, reported direct to Colin Sinnott. This was to ensure the coordination of the capital programme, especially that of the GLC and MWB. Of paramount importance was the role given to divisional managers, the policy being to fill the post with the *best manager*, whatever his speciality.

8.2.2 structure

The divisional structure of TWA was described as unique by the *Surveyor* (March 1,1974), being a combination of single function and multifunctional divisions. Morrison outlined the disadvantages of trying to restructure the old established bodies they had inherited: *Organisations the size of the GLC and MWB have a momentum of their own, which you disturb at your own peril.* It was also felt that the Authority must have good local management, requiring a high degree of decentralisation and delegation: *Quick response to consumer needs and an awareness of local problems cannot be obtained through a system of detailed control by Regional Headquarters. They require a high degree of autonomy to be given to Divisions and indeed to local works* (Black & Morrison, 1979:1581).

This inheritance in as much as it provided a framework for organisation also would serve as the chief force for inertia within TWA. The London divisions were internationally recognised in their fields, had existed for many years and were perceived by the industry to provide a first class service. The real worry was that these bodies had been very efficient and given the short time frame of 8 months, change might endanger the smoothness of changeover on the 1 April. Thus the 3 old established and largest bodies (Thames Conservancy, GLC Dept of Public Health Engineering, and the Metropolitan Water Board) became single purpose divisions. The Lea Conservancy, also an old established body, was somewhere in between multifunctional becoming responsible for rivers, sewerage and sewage. The other five districts became multifunctional and this structure was intended to be permanent according to Morrison: *What we set out to do was to set up the nine divisions in such a form as to remain. This is not a temporary arrangement* (*Surveyor*, 1974a: 48). With multifunctional divisions as the ultimate objective, the officers found no advantage in establishing temporary single-purpose divisions. The pain of reorganisation might as well be sustained all at one time.

With the overwhelming population being within the London Metropolitan area, location of HQ in London was virtually mandated by Parliament. Due to the high cost of commercial space in London, TWA HQ were located at New River Head, former HQ for MWB, an historic location making the first distribution centre for public water supply for London, established almost 300 years earlier.

8.2.3 regulation and RWQ

The function of pollution control was seen as very important, with the Director of Scientific Services directly responsible for this aspect of the water cycle. The assistant director was even more so, and being concerned with nothing else he was: *the authority's conscience and since he had no other responsibility but pollution*

control, something of a Caesar's wife... (*Surveyor*, 1974a: 48). His job was to give instruction direct to divisional managers on pollution matters.

The Thames was generally in a very good condition throughout its length and although there was room for improvement in its uppermost reaches and at its tidal limit, it provided no problems for the abstraction of water for drinking supplies. The tributaries, too, were of good or very good quality with further improvements being noted in only half a dozen. In contrast to this pleasing inheritance, at least 50% of the Authority's sewage works were not achieving the statutory 80% compliance limits.

The TWA, virtually alone amongst WAs, made a valiant attempt to inform its public. Immediately upon its creation, it employed the services of a commercial press information organisation, which issued frequent news releases to catch the attention of the public.

8.3 Continuity: Integration 1974-79

Altogether the TWA fared well during the first year of reorganisation, with lower charges and lower increases than the other authorities. The inheritance of the soundly organised London agencies and the Thames and Lea conservancies undoubtedly helped. Black concluded that the first year was altogether "splendid": *Despite the biggest reorganisation of the water industry ever to take place in this country, we have established a successful enterprise. Notwithstanding inflation, the accounts show a modest surplus of income over expenditure* (Thames Water, 1974-75: 7).

However, TWA's management were concerned about the future of the industry on a number of fronts. Aside from the general method of finance there was also the desire to cooperate with colleagues in other WAs in order that the industry might

present a united front on matters of common concern. There was also a wish to integrate operations in order to maximise potential benefits to the public from IRBM. This last aim was somewhat bedeviled by the difficulty in striking a satisfactory balance between HQ control and divisional autonomy. Related to this was the task of ensuring proper managerial delegation of responsibility, and the production of an effective management information system.

These issues were to remain on the TWA's agenda throughout the integration period. This period is characterised by a large and varying agenda, not surprisingly in the first years of a new large organisation. Many are negatively categorised, externally caused issues which impact directly upon TWA. By 1977 direct billing had been achieved, the financial problems however were to prove more intractable. Indeed the situation was worsened by the next year with the moratorium on capital expenditure: *There were big challenges for the company. There were big water resources issues, there were pollution issues and they did not seem to interest our masters as much as we wanted* (former Chief Accountant).

8.3.1 Board

A former recruit from a local authority recalled the familiarity with which the Board established itself along municipal lines. They set up a local authority type committee structure with a blend of local politics and diffusion of responsibility. The great disadvantage that TWA suffered from in that context was that it had nothing that produced any coherence amongst the members particularly. It was just a vast collection of individuals, some of whom had political connections. The general impression was of a not very high calibre of leadership: *And very few of them were what I would call leading figures...it was not exactly seen as a career posting for a fairly ambitious local politician* (Deputy Chairman). Members were seen as having enthusiasm, particularly in representing their local area but few of the management skills which such a large organisation required. A former Planning

Manager from that time explained the implications for the executive: *What happened in practice, therefore, was that the top executive officers had a tremendous amount of power in reality, but it was sort of split and divide issue always.* Much of the time of directors and assistant directors was spent in writing papers for and giving presentations to the Board with little outcome: *I mean half the time they didn't really understand what it was about* (Planning & Support Services Manager).

The Chairman Peter Black was regarded very much as a figure-head who represented the organisation externally: *A very nice man but very much conscious that he was the external face of the organisation. Not strong on holding the thing together internally* (Deputy Chairman). This situation at Board level would leave much of the decision-making up to the executive team.

8.3.2 executive

The officer structure reflected not a dissimilar sort of an arrangement as the Board. There were the traditional departmental boundaries and much the same lack of coherence at the officer level. Thames' history of good practice meant that it did not have a lot of the problems of other WAs. Consequently a sense of inertia within management was attributed to a lack of external pressures: *There was no real sense of direction...no clear view of the policies and what we were there for. Most of the people involved had a sense that this was the biggest thing that they had ever had to manage...a lot of people, a huge spread of territory, very diverse situations...There was no driver for policy, it did not seem to come from anywhere and that persisted for really quite a long time* (Deputy Chairman).

The new Chief Accountant at the time recalled his experience of starting at TWA and the slowness with which the centre established itself compared to the divisions: *The shock for me, having come from a London borough which was highly automated*

with a vast number of computers, I went out and bought myself a bloody ledger, literally in order to get the regional accounts going... A lot of the central departments were starting out on the same basis. So it took quite a long time at the centre to get working and coordinate personnel. Meanwhile the divisions embedded themselves in and were off and running.

Alex Morrison, the CEO, was an ex GLC senior officer schooled in the culture which did not require the officers to give strong leadership. The GLC had been a very highly politicised organisation with a lot of member control, so all his background was equalisation: *Keeping all the interests happy, avoidance of conflict and as long as there were no problems he was happy* (Deputy Chairman).

However, this was not to say that conflict did not exist between management at the centre: indeed it was perceived as a major problem. The conflict reflected not only the different personalities of directors but also their different management styles. A former Planning Manager recalled the situation: *Eric Reed was a very solid engineer and Sinnott used to like winding Reed up and leading him all over the place which he could do any time he wanted to.* Eric Reed was perceived as one of the 'old brigade' from the Met Water Board; a good engineer but not a manager: *The operations directorate was the weakest I guess of most of them...they managed the divisions but it was not terribly obvious what sort of impact they actually had on the divisions.*

The differences between planning and operations was a noticeable one, particularly in terms of management and culture. The former reflected its public sector roots with hierarchical lines of reporting while the latter operated along more informal lines: *In a much more free and easy relationship between our separate groups and departments* (Personnel Manager). One former member of the operations directorate recalled: *They had big disagreements about some of the principles of the*

London Water Ring Main, which were never resolved between them and the result was long delays, it never got implemented. The water resources issue was another source of conflict, with arguments about the WRB predictions: *Indeed that was one of the main conflicts internally which dragged on in a damaging way for a number of years...*(Deputy Chairman). The conflict continued between Planning and Scientific Services, making a triumvirate of arguing between Sinnott, Reed and Fish.

The one exception was planning and finance which actually got on together quite well: *Colin Sinnott and Eric Gilliland established their boundaries fairly quickly, Sinnott's patch was capital expenditure and Gilliland did not really get involved in that. Sinnott did not really get involved in operating expenditure. So once they got that clear between them each let the other get on in their patch* (Personnel Manager). The capital programme was the one thing which the centre had most control over because it was centrally determined by the planning directorate.

One new recruit to the authority described the politics at Thames at this time as 'absolutely awful'. He was brought in as a third tier officer, along with others in their twenties and thirties, who found their enthusiasm dampened by the centre politics: *(We) found ourselves enmeshed in this power politics and what we saw to be archaic attitudes. There was a whole cohort of us who tried to do quite useful things...* The directors were seen as empire builders out of the tradition of local government, while below them the individuals in the different directorates did work well together. Increasingly, management spent more of its time fighting each other than trying to manage things. The problems were exacerbated by monetary restrictions and came to a head in Thames on silly schemes, minor sewage works, or disagreements between the water quality committee and the planning committee over standards.

8.3.3 structure

Four principles guided development of TWA's structure:

1. Operational organisations to be built around existing services.
2. Only one reorganisation in Thames ("one upheaval was enough").
3. To avoid centralisation as much as possible.
4. Cooperation of staff was a matter of great importance.

On the third principle Morrison explained to *Municipal Engineering* (14th March 1975b) that the capital works programme was closely controlled from HQ while the actual expenditure was left to divisional managers: *The first thing we require of divisional manages is integrity...we can forgive everything except lack of integrity. We have tried to delegate the maximum amount of authority to divisional managers and to restrain HQ participation to what we consider to be absolutely essential. This has been very difficult.* The fourth principle would also prove an elusive one throughout this period.

The Divisions retained much of their local government ethos, particularly the largest which had been left intact and therefore continued to operate in much the same way as before reorganisation: *They brought their own culture and history with them. The other divisions that we had at the time were put together from a mixture of all sorts of local boards and urban district councils, so did not have much of a culture to start off with* (Personnel Manager). The largest divisions in London had more power and their managers were stronger than the executive: *No matter what the management at that time tried to do, they never really got their hands around London, it carried on being the Metropolitan Water Board and the Metropolitan Health Department of the GLC* (Planning & Support Manager). The divisions though powerful were isolationist and introverted: *We characterised them at the time as robber barons each in his own fiefdom and it did surprise us that they never*

saw the power that they could have had by ganging up on us...Each one went his own way with little reference to the rest (Personnel Manager).

Where there was rivalry this occurred between the three big divisions. This inevitably affected efforts to standardise practices and achieve the hoped for rationalisations from IRBM. A former Divisional Manager described his perceptions: *I think there was a certain standardisation of approach but there was absolutely no question, if you went to different divisions you would find them doing things in different ways.* Indeed wide disparities also existed within divisions making standardisation an uphill struggle. One area of conflict lay in the plans and aspirations of the predecessor bodies which the authority had inherited. As one middle manager in Planning at the time explained: *A lot of the people on the engineering side saw it as an opportunity to get their pet schemes put forward...These had been deferred for years and years.* This planner's job was to challenge their assumptions given the fixed amount of capital to work with and to prioritise: *That often meant that I was in contention with them and the same was true of most people in planning...So there was a mixture of friendly rivalry (and) hostility...but it was quite good fun actually.* The policy of decentralisation without direction left a vacuum at the centre. The situation was described by the Deputy Chairman: *There was a tremendous amount of turf conflict between the centre and the divisions so it was a very introverted organisation without any clear team focus or drive at the centre.*

8.3.4 finance

After the 1976 drought there was the feeling within Thames that they had come through the big operational test with flying colours, so there was nothing wrong with the organisation. There was some doubt about whether the big resource schemes were needed, but there were no environmental pressures, so there were no drivers on the operational side. In many respects finance was more active than the

technical aspects and what had come to the fore, was that they could not be reliant on local authorities for the billing. The move to direct billing then became one of the biggest things to preoccupy the organisation's external relations for some time in that early formative period. The Chief Accountant at the time recalled the furore: *It precipitated the most almighty row...Whereas the WAs in my guess, had made very little impact on the public consciousness up till then. All of a sudden the roof came in...(which) set quite a sour note with the customer base.*

The biggest area of direct billing was with the Metropolitan Water Board. Historically they had always made it their business to produce very low bills for customers. They had the City with a lot of high rated property and quite deliberately milked the high rateable values of the area, to subsidise the domestic consumer. As the Chief Accountant now discovered: *Japanese banks were taking hundreds of thousands of pounds off their water bill, so we had to increase the domestic water bills and put the sewerage charge on top.* Relations with the London customer base reached their lowest ebb: *People were going berserk...As a result the organisation became even more introverted and less sure of what it should do to fight its way out...Its relationships with the outside world seemed to have created enormous problems and in a sense dominated the industry by finance.* This was a time described by the then Manager in charge of Billing as one of 'great trauma'. Only to be compounded by the Damend case (4.8.4) which led to a 25% increases in charges generally, throughout Thames region. TWA took full advantage of the situation when the call came to move away from government borrowing and put an extra 5% on top.

At the same time the restrictions on capital investment with the moratorium gave a sense of hopelessness. There was no investment money which heightened the dilemma of collecting money from the customers and being unable to spend it, thus adding to the tension both inside and outside the organisation. This was particularly

difficult for the Board to cope with: *You have this large local authority trying to run it, wringing their hands over the whole thing...Nice honest men who'd come out of the shires found themselves besieged by their constituents and pilloried in public for their part in this. So they got even more defensive about the whole thing* (Deputy Chairman). TWA's response to this crisis was seen as characteristic of the lack of decision making in the organisation: *There was no taking the scalpel and making the correct management decisions based on fact. It was much more to do with "let's react in some way that actually stops the whole system"* (Manager Operations Sewage).

The effect of the moratorium was greater expense for the authority because contractors had to be laid off, as well as a delay in the investment programme. It was this more than anything else that caused the build up of the backlog of investment. The investment plans of the divisions were considered far too ambitious by planning who had to mediate between their demands and Treasury control on expenditure. A middle manager in planning at that time explained: *Our job was to try and sort out the priorities. You tended to do that through influencing directly the major investment projects, and through controlling minor investment projects.* The planning department were very much involved with trying to influence and persuade the DoE of the merits of what they were trying to do but found little common ground, in the opinion of one former manager in economic and financial planning: *The debates there were not well informed, in the sense that there was not really any sense from within the department, of any real ability for them to judge the case that we were putting forward on any real merits and we accepted that is how government worked at the time.*

8.3.5 regulation

TWA established the separation of the control and audit samples in the directorate of Scientific Services by having one assistant director (division services) take

responsibility for the control samples, generally at division level but augmented when necessary from HQ. For the regulation function another assistant director (pollution control) had responsibility for the collection of audit samples from all works, including those owned by the TWA as well as industrial and other discharges. Divisions still maintained a distinct managerial distance from Scientific Services in deciding their own policy.

Concern for assuring the public of TWA's integrity was ever present. Hugh Fish, an acknowledged spokesman for the scientific and river quality community in the water industry, defended the WA's role in serving as its own regulator (*Municipal Engineering*, 1974). While recognising that the regulation function and the provision of unbiased information to the public should be performed by agencies completely outside the WAs, he believed that this would not be economically practicable because of the wasteful duplication of effort and resources.

Nevertheless, Fish did make a formal proposal to the TWA water quality advisory panel that it retain a firm of consultants as 'game keepers' to keep a check on water quality quarterly audits (*Municipal Engineering*, 1975d): *Managing a highly developed and extensively used water supply river system can be likened to riding a tiger. Skill, nerve, and a tight rein form the essential control mechanism. One bad pollution mistake and the tiger stops dead in his tracks and turns on its corporate riders* (Fish, 1975a). The proposal was rejected by the panel, who at the same time gave assurance to the public that the TWA has confidence in its own professional staff and believes that the public, which it represents, would share that confidence.

Tensions between Scientific Services, Operations and Planning reflected their origins in the predecessor organisations. Thus Scientific Services operated independently of Operations as the Thames Conservancy had done before while arguing with Planning about finance: *Hugh Fish was very good with the members*

and spent a lot of time cultivating them. RWQ was very much his thing and Sinnott was against spending any money on it. Hence that was part of the tension (Planning & Support Manager Regulation). Thames set RWQOs but, unlike STWA, without any time limits on them because of the constraints on capital expenditure. The former Divisional Manager of Thames Conservancy explained the situation: *As far as Thames was concerned it was quite challenging to maintain quality. There were pressures in the catchment, population movements...and they did actually have to work quite hard to maintain their sewage effluent performance and maintain their water quality without actually making any improvement.*

8.3.6 standards

The major reconstruction of Beckton sewage works had already commenced in 1974 and the money had been allocated while a number of other works had either been done or were already underway: *And they left TWA with quite a good platform really, to shout about. In terms of improvements in the Thames estuary* (Planning & Support Services Manager). There were still quite a number of inherited sewage treatment works in 1974 which ought to have been enlarged at a much earlier date than they actually were. A former Assistant Divisional Manager in Thames Conservancy explained the background: *LA's expenditure on sewage treatment works was governed by loan sanctions and we had hundreds of examples all over the catchment, of unbalanced sewage works which had got bits missing because the DoE chemical inspectors had refused to allow them a loan sanction.*

The consequence was TWA landed with consents which were set on the basis of 80% or 75% compliance. Being design criteria, once the sewage works had been built the standard was fixed. There were programmes in hand for putting these things in order but they were slow because of the backlog of work to be done. These problems were compounded by the moratorium and later the introduction of COPA: *So there were quite a lot of sewage works which were under capacity and*

led to effluent failures. And of course the effluent failures were not particularly enforced if we are honest about it (Planning & Support Services Manager). The enforcement of standards was a capital expenditure issue which inevitably brought Scientific Services into conflict with Planning, as one planning engineer at the time recalled: *There was a lot of pressure within the company not to strengthen those standards. And again Colin Sinnott had quite a lot of say in that.* A former planning officer elaborated on the nature of some of the arguments between the two directorates: *We tried to do some work on river quality planning and Hugh Fish's department came round and they tended to rubbish it and we got into this silly argument...we did the cost of sticking with a certain set of objectives or improving them, we upset him, because we actually suggested that some of the objectives were on the verge of unachievable.* The real issue was that to achieve the required standards meant designing works to a level beyond the capability of the operational people. Hugh Fish's view was to have these objectives to try and improve the sewage works, whereas Sinnott was concerned about the cost.

Expenditure on standards being a director level decision, Scientific Services was in such instances one of four directorates and there would be quite a lot of influence from the others to keep costs down. The problem the planners had in trying to eke out a very tightly rationed capital lead to a concern with prioritising. Ultimately decisions about works expenditure had to be made in the context of where cuts could be made in other areas. The ceiling on capital expenditure did not provide many options: *So in a sense the directors really just had to take a corporate view of what they wanted the company to do. It was very difficult to say well we won't look after the waterworks because they wouldn't regard sewage works as a higher priority. So all we were doing was just trying to plug the gaps...And gradually the situation got worse* (Planning & Support Manager Regulation).

Drinking water claimed a priority over sewage with the inevitable consequence that sewage works investment lagged. A former planner explained the situation: *There was always a significant number of them failing their consent. Basically because they were undercapacity. And we hadn't got the money to put it right.* Despite resetting their consents to the capabilities of the works they still kept on failing them: *That is where the sort of tussles came in really because the Scientific Services directors were not terribly keen on actually having the standards pushed back so a number of them were modified.* The problem from the planners viewpoint was that a works with spare capacity doing better than it was designed to do would get its consents as part of the quid pro quo ratcheted down. Whereas others were pushed out because they were not capable of any better. This often created a situation where any additional load required capital expenditure because the works were consented at their functional limits: *Fundamentally there wasn't enough capacity in the system, so run as well as you like you cannot overcome those deficiencies.* Sewage works being controlled by the capacity they run on, there is little to compensate for the lack of time that the sewage is spending in the works.

Thames began organisational life with the best intentions to keep its regulation function separate. The separate reporting arrangements to the Board ensured an honest and effective start for the new organisation. Reorganisation allowed for a more even distribution of skilled staff and big improvements were noted initially, particularly in the estuary. The failures in standards of sewage treatment were brought about by financial constraints and exacerbated by internal rivalry and conflict, such that a resolution via coherent policy and decision-making was not possible.

8.3.7 summary of integration

The principle of IRBM was seen as first class but largely a missed opportunity during integration. Described as a very 'passive period' by the Deputy Chairman: *I*

will be candid, I don't think we were quite as active in taking the role on, as some of the other WAs, who did seem to take a more coherent view of their responsibilities. The difficulty in rationalising and standardising the predecessor organisations was as much due to the policy of decentralisation as the internal politics created by a lack of cohesion between the directorates, the executive and the Board. Thus there was an inability to see the organisation as a whole with executive responsibility left up to the nine divisions and no central coordination. As a result the changes required to operate the new authority effectively were impossible to implement: *There was a lot of resistance to change. Enormous resistance to change. In fact, I don't think much change happened* (Planning & Support Services Manager).

One former member of the planning directorate recalled the integration phase with enthusiasm: *It was exciting, it was a big challenge. It was an enjoyable period because life was much more relaxed back in those days.* Despite trying to plan from the centre and involve the divisions in doing their own plans, it was very difficult to get the organisation to look far ahead. The other difficulty was the inadequacy of available information for the whole region: *The lack of computer power and the requirement for cooperation from the divisions compounded the difficulties.* A lack of a strong centre with strategic thinking resulted in a reactive organisation where in the words of the Network Services Manager: *In the 70s it was very much "keep the ship afloat" and very much the culture was "Thames is best".*

8.4 Reorientation: Nationalisation 1979-84

This period begins with new top management as both the Chief Executive and then Chairman retired in 1978. Their place was taken in the first instance by the former director of Scientific Services, Hugh Fish, and an outsider to the industry, Geoffrey Edwards from BA, in the latter case. This phase is characterised by a decline in the

number and variety of strategic issues. Geoffrey Edwards' first annual report for TWA makes mention, in its *Future section*, of the 1979 Tory victory, and a government dedicated to a reduction in public expenditure which: *No consideration of the future for the Authority and its customers can ignore...*(Thames Water 1978-79: 38).

TWA had established its position as a viable entity, if not the largest in the industry. Management and strategy within the organisation had shown little improvement during the 1970s and now TWA had to contend with a new financial framework introduced by the newly elected government: *So (in the) late 70s (there were) enormous turmoils, more of an attempt to give a sense of direction and of control and coherence to the outfit but going not at all well in Thames* (former Chief Accountant).

8.4.1 management

The new Chairman, Geoffrey Edwards, had a totally different view of the Chairmanship. He had little regard for the members and thought that he should be able to manage as an executive Chairman. The current Deputy Chairman described him as:*...totally contemptuous of this member grouping, saw them as a rag tag and bobtail lot. Decided to try and run the thing through the officer corps.* This was a less than successful strategy, for despite management differences the executive closed ranks on the new Chairman: *So after a long, internal power struggle, Geoffrey was totally rebuffed as an executive Chairman, at that stage belatedly tried to turn round and build a power base among the members and left it far too late. So the poor devil ended up without any real friends in either camp.* Edwards' career in TWA was seen as a particularly inglorious one; not only was he perceived as not very clever, he was not skilful at playing his hand with government either.

There was a change in emphasis from finance with the appointment of Fish as Chief Executive, having more interest in the technical side of the organisation. Despite there being two or three other directors who were seen to be stronger in terms of the weight of their function and their background, Fish had always cultivated the members and emerged as a compromise candidate. There was no way he was in charge of a unified management team: *I think in Hugh Fish's time the extent of the warring intensified really. And it was especially between operations and planning* (Planning & Support Services Manager). Therefore Fish built his relationship with the members as a power base but not with his own officer team. His idea of the direction of the authority was influenced by his environmental scientific background. In this respect he tried to give the organisation a direction that had previously been lacking.

Fish knew the sewage treatment works were failing and tried to respond with work which needed to be done. He was also keen to start promoting multi-functionalism more effectively. At the same time he was under enormous pressure externally from the DoE control functions to save on investment and to increase efficiency. In response he tried to demolish the old divisional power bases under the banner of efficiency and multifunctionalism because he could not dislodge them.

The top executives were in a precarious position ultimately, with Geoffrey Edwards ostracised from managing the outfit and alienated by the members, he was also seen to be ineffective by government. While Hugh Fish was seen as: *Struggling to do his best, but without too many friends and trying to keep all these balls in the air at once* (Deputy Chairman). His impact has been described as minimal and his particular weakness in the inability to take decisions: *It was an almost pathological reluctance to make a decision* (Personnel Manager). Their leadership manifested itself in a series of internal upheavals such that: *Rather than lift our heads and look outwards again, the organisation turned back on itself* (former Finance Director).

8.4.2 structure

Within TWA it was felt that no progress had been made in building an integrated organisation and the blame was laid at the time on the three predecessor organisations. The Personnel Manager described the situation: *They wanted to carry on doing what they had always done and the people who were heading up those divisions were quite strong or quite powerful...* There followed in 1981, a reorganisation of Thames' divisional structure from 9 to 6 along geographical lines, with North and South London multi-functional divisions. This enabled a significant reduction in manpower, the first time the MWB had been taken apart: *The culture survived remarkably well after being dismembered and it took quite a few more years of the changes* (Personnel Manager). Similarly for the former Thames Conservancy, the rivers division carried on until 1982 when all of pollution control centralised under the Directorate of Scientific Services.

It was the beginning of successive moves to try to create a centralised organisation, and less like a collection of nine divisions. One of the changes was the move from engineers and technical divisional managers to heads with management skills. One new Divisional Manager during this reorganisation had come from the planning department at HQ: *Doing that was quite a big change for me because it was like jumping in at the deep end but I had a very good (assistant) divisional manager who was an engineer and knew the operational side inside out...* Strategic thinking was not a feature of divisional management but divisions at this stage were beginning to take initiatives of their own: *What one was trying to do was to actually pick up the thing that was giving the most trouble and trying to make sure that they had got the resources and the money to be sorted* (Planning & Regulation Manager).

There were others who expressed doubts about this restructuring. For instance the then Financial Director saw the changes as less about effectively delivering a service than demolishing some of the old power structures: *He did that to great effect. The problem was it was more about what he wanted to get rid of, than what*

he wanted to put in its place. So it was all a demolition job. There were divisional relationship changes with the clear out of some of the old inherited managers being replaced by team players. However, the consensus of opinion was of no easy change, it was a difficult period.

At HQ the executive directorship was reduced from four to three with the unification of operations and planning under Eric Reed and later Colin Sinnott on the former's retirement. This facilitated projects like the London Tunnel Ring Main: *Because everybody was together and we agreed that we would get on with it...and all those things we resolved then. Because we had the right sort of structure for resolving it...There were a lot of other issues kicking around the place which were similarly resolved* (Planning & Support Services Manager).

The divisional reorganisation did enable Thames to cut manpower. As the former Finance Director recalled: *For an organisation which had never to my recollection shed a post it was really quite traumatic. People agonised over one post going. There were a couple of people taking early retirement and the whole organisation was traumatised by this.* Further rationalisation became possible in the aftermath of the 1982 water strike. The outcome of management working round the clock to supervise sewage works during the strike, was the realisation that not only were the works extremely adequate, but that they were well over-manned: *It did not get anybody what they wanted really. It was a major battle because everybody, including the government, thought that the water industry would be on its knees within a week...London was the big battle ground* (NRA Manager). When the strike ended all the overtime on sewage was stopped apart from emergencies:*That was a proper shambles, from a trade union point of view* (former Assistant Divisional Manager).

8.4.3 finance

The new financial framework had the effect of rationalisations in a number of areas, the most notable being manpower. The financial targets were assisted by the programme of selling off surplus land and property in 1979 which three years later had realised £14 million. Throughout the period TWA managed to hold increases in charges to below the level of expenditure.

Finance naturally dominated the budget at this time. The Board was seen to take a very passive attitude. One of the key reasons was a lack of an acknowledgement of any major service problems, thus there was no basis on which to create a case to go to government: *So every time the government cut things there was a lot of weeping and wailing and gnashing of teeth...So we dutifully cut the capital investment programme...with great internal management wrangling and with a lot of wagging of fingers...* (Deputy Chairman). The perceptions inside TWA were of few allies, either in consumers or government, the latter being seen as "holding all the cards": *I think some of the more active companies played their hand with more skill and vigour than we did* (Deputy Chairman).

Relations with the DoE were strained, with little acceptance by that department of the long term nature of the organisation. One Planning Manager described the difficulty for the company: *Most of the debates seemed to be about 'once you had less money what you would do?' It is difficult to answer in a way that provides ammunition to say 'don't do it'. Because the rate of deterioration is so small...you don't stop doing things, you just push everything backwards...The trouble is the failure occurs about ten years down the track when its all built up.* In meetings with the DoE there was little discussion about positive objectives, long term planning or forward looking: *The DoE could never see beyond a year. They were interested in this next spending round. It was short termism gone mad.*

Bill Harper was appointed as the Finance Director in 1982 and he tried to forge links with the planning department in order to streamline planning and finance. This was just beginning to come together and work when the complete change brought by the 1983 Act came about. In Edwards' last report he refers to the imminence of the 1983 Water Act with reference to TWA's *gradual metamorphosis from a rateable-value based "taxing" authority to a public utility.* He notes the achievement of the Authority in meeting all the requirements of the new financial framework. Then in lieu of the key change to WA Boards, he regrets the excessive turnover in membership: in the nine years since its existence the number of appointed members had reached 234 (Thames Water, 1982/83).

8.4.4 RWQ and regulation

At this time relations between the regulatory side and divisions were largely amicable: *The regulatory side just accepted that they had to put up with what happened really* (Planning & Regulation Manager). Thames Conservancy which had been an effective and powerful regulator prior to reorganisation did however feel frustrated, as a former Assistant Divisional Manager explained: *Whatever they wanted to do the whole thing would be overruled from some high level, on the grounds we didn't have the money to do it.*

Information on RWQ was not as extensive as STWA in the sense of a separate quality document. Thames established a data base which recorded the performance of each works year by year and the river quality. There was a publication put out by the planning department but this was discontinued in the early 1980s with the reorganisation of the planning directorate. In general the gathering of quality data was a lacklustre affair: *There was always this great hype to the divisions each year to get data (and a) certain amount of resistance: "we've got better things to do than fill in your forms"* (Planning & Regulation Manager).

The former Divisional Manager of Northern and later the Rivers Division, explained that improvements in RWQ were very incremental: *Slowly that situation was worked on but it was not dramatic improvement. On the other hand Thames rivers were a lot better than Severn Trent's anyway, so you would not expect quite such a dramatic change.* The smaller Board did not regard the issue of RWQ in the same way as the old quality sub-committee had which was solely responsible for water quality: *They realised its importance, but it was important against other things. It manifested itself primarily in the issue of how fast we could improve sewage treatment services, which again came back to money.*

Generally the issue of RWQ was low on the organisational agenda for a number of reasons. In the first place, TWA displayed little recognition of external issues: *My enduring recollection all the way was not a lot of consciousness of the outside world* (Deputy Chairman). There were many internal problems which the organisation was grappling with, in terms of the politics of the organisation and capital expenditure cuts which were the main driver of decision making: *By the time we got to the early 80s we were really into shedding manpower from the organisation, saving money in great swathes. And the sewage treatment works were failing more and more and that was not regarded as very clever but it was not the first priority* (former Divisional Manager Rivers). Secondly, the organisation, by virtue of its glorious past, had convinced itself that sewage works problems were not a serious issue. The Deputy Chairman explained the thinking: *We were living off the tideway clean-up still and that was by definition taken to mean that there were not any shortcomings on the sewage side. We did not have some of the problems that the Northern Authorities had of collapsing sewers and genuine dereliction of the infrastructure. So nothing was driving us from outside at all.*

8.4.5 1983 Water Act

The 1983 Act represented the culmination of the nationalisation period. Its immediate effect was to reduce TWA's Board from 62 to 15. Most of the new members were DoE appointees but they came in with specialist knowledge and a new set of objectives to make the authorityy act in a more commercial manner. It was the Chairman who made the most impression: *Roy Watts...hit the place like a bomb, that was when Thames changed direction...he was a one man army* (former Finance Director). In his first annual report Watts wrote of the Board: *It seeks to deal only with policy, strategy and performance monitoring and to do so without the proliferation of Committees which marked the previous arrangements. It believes that management is the responsibility of the executive under the Managing Director...*(Thames Water, 1983/84).

The next year is characterised by a predominantly internal focus on issues concerned with organisational change, all internally driven in response to the new perceived status of the authority. As its first task, a programme of change was initiated by the Board with the help of outside consultants. Efficiency measures were established with another restructuring of the divisions from 6 to 4. More significantly, each Division was given its own profit and loss account; as was the new Support Services Unit, thereby setting up a system of checks and balances. A marketing organisation was established with a General Manager and symbolically, HQ was transferred from London to Reading. A wide ranging series of studies were launched to examine measures of operational efficiency. Managers' roles would be enhanced, there was to be a corporate management and they would be judged on performance. Within a year there was an 18% reduction of non-manual and 6% of manual employees. In this way Watts fulfilled his brief to be efficient and commercial within the first 12 months of nationalisation.

Watts who had come from BA where he had axed 2400 staff and raised £250 million from the sale of surplus assets, applied the same formula to Thames. Dubbed "The man who thought he'd taken over an airline" by sceptical staff, Roy Watts explained: *I went in with my sword because I tend to think old companies get fat* (*Management Today*, 7/91). During his first weekend on the job Watts took home the organisational chart and ended cutting through several layers of management. As the then Finance Director remembered: *The Directors Board went, I was the only survivor.* Now no manager could have a reporting line of less than six people and the previously tall tree structure was dismantled. The General Manager of Support Services at the time recalled the mood of the organisation: *So tears, collapse. People used to cheat and play games and all that...* For Hugh Fish some jobs were very scientifically based rather than managerial and those sorts of stresses and strains caused him to fall out with Watts. Within a matter of weeks Fish decided to leave: *Hugh could not stand it, he stayed on the Board for awhile but he went as Chief Executive.* This period was described by Watts as "a fairly lonely time". For some in the organisation the changes were an opportunity, as the Thames region NRA Manager explained: *The people who were at the centre, the system directors and head officers, were really smashed and it was the night of the long knives. People working out there in divisions, like me, assistant divisional managers suddenly found ourselves promoted.*

A new MD, Ken West from Unilever, was appointed by Watts within months, to replace Hugh Fish. Many of the top management had changed and a lot of internal people promoted to senior positions. The then Finance Director described the situation: *This new team tried to shake down under Ken West. Roy (was) giving very strong leadership at this stage. Interestingly not so much to do with what we now call the core business because again, we told him there was no problem..The issues are efficiency, not service. Thames was the greatest Water Authority in the world.* The drive for efficiency focused Watts' attention on streamlining operating costs, to

the surprise of the Finance Director: *He came along and said "what do I do to cut 10% off the operating cost?" My jaw dropped.* The previous cuts in staff had all been blue collar while the management had gone up. Any cost cutting had to make inroads into the employees: *He said "right 23% off management, 10% off white collar and perhaps we need some more off blue collar".*

A former Divisional Manager explained that employees were very devoted to serving customers but as a vocation, rather than as representatives of the organisation. The problem was, if there was a service problem, there was no customer management system to solve it. A technician had to resolve it and it would depend on what this employee felt like as to how the issue was managed: *And often at that next level they could get a bit antagonistic to customers.* Very quickly Watts began to impress the concept of customers upon the organisation and its key role in the provision of a service. The Planning & Support Services Manager explained: *He really started saying we've got a load of customers out there, we really ought to be treating them as customers. He was the first one to start enunciating that as an objective.*

The finance director was subsequently made head of corporate planning and replaced by a director with a commercial background. Though ruthless in his determination to increase efficiency, Watts gained a lot of admiration from some quarters: *It was a work of art in terms of grabbing power. Because he really moved it from the big Boards and chief executives driving with some checks and balances into really driving it personally* (NRA Manager Thames Region). It was obvious to many organisational members that from the start Watts wished to streamline and privatise. The Deputy Chairman of Thames summed up the feeling within Thames one year after Roy Watts' arrival: *That was '84, I think it was in many respects the worst year of Thames Water's life. A lot of people retired, (with) enormous cultural*

change hitting the people at the top and a lot of newcomers coming in. It was a bad year.

8.5 Continuity: Commercialisation 1985-87

Thames' strategic agenda through the mid to late 80s was steadily expanding. It consisted of mostly internally located issues caused in equal measure by external and internal forces. The changes and demands from the political segment are in this phase matched by internal developments and challenges. The underlying drive of all new developments was the desire to introduce commercialism into the organisation. This can be seen in a centralisation policy, the promotion of big projects and the dispute over proposals for the NRA. The atmosphere of turbulence could not have been eased by three different MDs within 4 years.

8.5.1 management

Alongside the focus on efficiency, management were now required to think in a more entrepreneurial fashion: *Roy also gave us some new interesting spins like you have got a lot of assets and skills here, do other things as well, develop some non-regulating business. We had been doing a bit of overseas consulting. He wanted that blown up...Exactly what you would expect from a man with his background, used to looking for opportunities and broadening the base of business* (former Director of Planning).

All except one of the new appointments from outside did not last, including the MD Ken West who retired after only 15 months for `personal reasons'. His successor was Bill Harper, Head of Corporate Planning, chosen because he was well liked and would provide a sense of stability during a turbulent period: *Nobody was more astonished than me when the Board pulled me in and said would you like to do the job. I was totally gobsmacked...I think the Board had said enough is enough, we*

just have to settle this thing down and organise it. That was largely my role to actually rally the troops again. I knew all of the players but also energised by this new environment, and by what had rubbed off on me, I had a fairly clear idea of what I needed to do.

The finance director also left at this time while the internal management tried best to adapt. Despite the upheavals, there was a positive sense to the changes in terms of enabling managers to manage: *It was a huge opportunity as well, because for the first time ever we had got direction, it might have been hairy but at least it was management trying to get things done and moving* (former MD). Watts was able to generate support and enough allies to make his vision work for the organisation. One of the ways Watts won people over was to take what became known as the top 75 managers out of national pay structures and gave them a management style package and company car for the first time.This was later repeated with the next rank down.

A new personnel director, Richard Marshall, came with the view to build the capability and confidence of the management group. As the Personnel Manager recalled: *We poured a lot of effort into the top management team...to use them as the engine house of change.* Internally changes in management were being brought about at a fundamental level in terms of revising strategic notions of their business. An internal document circulated at a senior management meeting on 19th March 1986 outlined new management principles, new management processes for developing growth businesses, and improving accountability. It ended with the proposal to further review the organisation, noting as it did that this would be the third review proposed in five years. In April 1986 a reorganisation of senior management was announced to cope with expanding activities under a £740 million five year corporate plan.

During this period new strategic issues gained in momentum. In particular the drive to gain credibility as a business. Performance related pay was introduced, planning became much more important and an emphasis on customer which eventually spilled over into the privatisation debate. The 1985/86 annual report gives TWA's aspiration:*To be the best and most efficient water undertaking in the world.* This was supported by key objectives of those elements of the business to provide the main growth:

-to generate profits

-to create and exploit growth opportunities

-to exploit and develop existing resources, expertise and experience.

This was also evident in the launch of big projects, designed to keep Thames in the headlines and demonstrate its commercial viability. Work on the London Tunnel Ring Main began (£175m) as did investment in a new pier at Westminster. This last was to open up the tideway to London's visitors and be attractive, functional and profitable.

8.5.2 cultural change

The changes were not wrought easily as they involved profound shifts in ideology for organisational members at all levels. Managers had to own the policies and identify with the organisation (see 6.7.2). Allegiance to Thames now took precedence over professional values as the former Finance Director found: *Yes, professionalism seemed to stop several layers down, you could not afford to have undermining professionals up on the Board, with their own agenda as it were. He smashed that flat in the outfit.* Similarly, organisational loyalty was also more important than ones departmental function*: It was getting away from the idea that my department was more important than the company* (Planning & Regulation Manager).

Cultural difficulties were particularly evident in the problems with trying to establish enterprise activities. For instance, Thames set up its first profit centre in 1984/85 in construction engineering management which was slow to prosper. The manager responsible at the time recalled: *The culture wasn't there to really support it, the final push, to some sort of management style and culture...I remember having briefing sessions with the regional full time officers, which required me to sit down and actually explain to them what a profit and loss statement was. Why we had to do things differently. And that was quite an awkward period...*

The changes took years to effect at both ends of the organisation and represented a bewildering time for many organisational members: *There was physical turbulence down at the bottom end of the organisation and a shower of messages came down from the top to do all sorts of things. People did not know whether they were coming or going. The poor guys down at the bottom end were taking the brunt of the particular thing* (Deputy Chairman).

8.5.3 structure

Bill Harper as the new MD decided firstly to sort out the internal structure: *None of the reorganisations in my opinion had ever been as clearly directed as they needed to be so we centralised the outfit.* Some of the key functions were pulled into the centre: *Because it was always clear to me that you could not have a real power base in division and at the centre and have clear direction and get things done.* In its place a completely centralised organisation was established as regards all the support functions and the operations were split into units along clean and dirty water lines. The merging into four divisions created more powerful structures but with centralised control. The key issue was management control and so HQ and divisions were for a period equal. This had followed relatively quickly on the reorganisation under Hugh Fish, described as: *quite a bewildering period* by a former Divisional Manager.

It was not until Harper had been director of planning that he became aware of the extent of the service problems: *We were changing to get efficient but by this stage, it was also clear that we had major service problems as well and we had things to do that were externally driven.* They were well behind the pace in London demand which confirmed that the calls by engineers, who for years had been saying they should re-main, were actually right. Having never been able to articulate their case, they had given up trying within the organisation. Harper did some development work on the ring main evaluations, started to take stock of the sewage treatment works and found that 30% of them did not work. About this time anglers were suing TWA because of the pollution of the river, so they needed some good development strategies for water resources. TWA was also starting to get in trouble with drinking water quality. All these service problems indicated a desperate need for a service development plan and investment.

8.5.4 privatisation debate

As the authority which initiated the privatisation debate, the issue had profound significance for organisational members. Roy Watts argued for privatisation on the basis that WAs were taxing customers to raise revenue for government. TWA was the first of the companies that was starting to move to debt repayment: *So Roy really went for it because he thought Thames' customers were being unfairly treated...*(Planning & Regulation Manager). Thames' campaign made considerable inroads into the dominant ideology at Thames, particularly at senior level.

Senior management suddenly found themselves caught up in challenging the government and attracting positive public notice, both unlikely events in traditional water industry thinking. A former Divisional Manager recalled the novelty and excitement of the event: *We wrote to the 200 largest customers, nobody had ever thought about people who paid water bills as customers... (we) never knew before we did all this who were the biggest customers...That was novel...*He described the

excitement of going on the river, past the Houses of Parliament on a boat, with some of the opposition front bench on board and a few dissident Tory MPs, with a big banner saying "No Minister, don't tax water": *It was a remarkable turn around in image...because we had taken on the government in order to keep the charges down, cared about customer, (all new ideas which showed Roy Watts as a) top PR man...it was great suddenly to be working for Thames Water, it was pretty good.* Letters were sent out with every customer's bill saying if you don't like this write to the Minister. After 2.1 million bills Watts was called in by the Secretary of State and threatened with dismissal.

Bill Harper felt that Roy Watts was on dangerous ground in taking on the government, but knew he was past caring: *So much was changing. He was a man with nothing to lose which is a very dangerous situation. He'd had his career at British Airways, he'd left under not very happy circumstances...So he came a bit embittered from that experience...He had no great affection and interest in the water industry, he just wanted to be seen to show that he could do it. But he did not care if the government sacked him. It did not bother him, he was reasonably comfortable and he was that sort of age...*

Out of that huge row privatisation sprang, and because Thames' financial position was very strong at that stage, Watts had Harper constructing the balance sheets as to how it would look if they were privatised. They did the back room work on it and it was feasible. On 13th September 1985, Ken West gave a paper to the CIPFA conference entitled *The Privatisation of Thames Water*. In this he makes the links between customer satisfaction, capital spending, prices and levels of service. Internal competition was being encouraged and developed by the use of profit and loss centres and thence to performance related pay. Significantly, in light of future wranglings between Watts and the government, this paper argues not only for the maintenance of IRBM but also regulation: *To be fair, he saw immediately the*

advantages of river basin management and he was quite happy to pick up the banners of the industry in that respect, to see the technocratic advantages of that (Harper).

In an article to *Public Finance and Accounting* Harper argued for privatisation on the grounds that it would create management opportunities:...*Thames Water's public position is that privatisation will bring benefits to the customer and the economy through improved and extended management performance* (Harper, 1986, March 30: 14-15). The rest of the industry regarded privatisation with some scepticism, as Harper explained: *Most of them were aghast that the edifice had so thoroughly been shaken and that these wild ideas of privatisation and development and new functions were coming out of Thames... We were seen to be out of control you know- smashing the institution to the industry and upsetting all sorts of people.* This did not deter Watts who was less interested in the water industry than in proving the point that to be efficient it had to be privatised. Therefore Watts behaved as a maverick, without deference to the rest of the industry: *He distanced himself, and he did his own thing, he did not consult the others and I think he felt that if he consulted he would be watered down. Thames was very much like that in those days* (former Director of Corporate Strategy). The experience of being alone in the industry in promoting the issue was described by the former Director of Corporate Strategy: *We upset everybody. We did not have many friends out there. Roy had gone over the heads of the establishment to the sort of populist appeal. He was the friend of the people...he was very clear that it was for the benefit of the customer...*

The result of Thames pushing for privatisation was that they set the agenda for awhile. It was widely claimed by interviewees that Ian Gow's 'consideration of a measure of privatisation' was a means to buy Watts off. He had set two conditions, one of which was some acknowledgement of privatisation and the other one, a

debate in the House. Despite losing the debate the seed had been sown: *And Thames produced a whole series of proposal papers to government at that stage about how it could be done* (Deputy Chairman).

The proposal to privatise the authority had a mixed response internally, early on many felt that the environment would suffer, as the Environmental Science Director explained: *There was quite a strong feeling that it would all be taking money out of the business and doing the absolute minimum.* Also, organisational members were concerned about how to reconcile the public service values with making a profit. The Personnel Manager described how the organisation responded by recognising: *a need to debate those issues at great length and trying to find ways of understanding how you could lead to reconciliation of the two.* Those who were in favour of privatisation tended to be managers who saw it as a good opportunity for change and could see coming out of it more freedom, power, money and opportunities. However, as the Personnel Manager explained: *If you were to take the whole of the 9000 people that we employed at the time, I would have guessed that you would have got a pretty thumping thumbs down to the idea.*

8.5.5 RWQ and regulation

Under the new reorganisation, the two original Conservancies were taken out of mutifunctional divisions and reestablished in their own right to oversee the rivers. The Divisional Manager at that time: *We were having a more focused debate then about the need for investment in certain areas. We were much stronger then on our facts than we were in the 70s.* A regulation and monitoring department was established, somewhat in advance of government proposals for the NRA. This was in line with Watts' desire to privatise the whole of the industry's functions. His vision included leisure and recreation on rivers as potential growth businesses. He was therefore bitterly disappointed at the announcement, a year later, of government's intention to form an independent regulatory body.

Roy Watts' determination to keep in the rivers was as much about the characteristics of the Thames basin as commercialism. Thames are the archetypal river basin authority. Harper had advised Watts to privatise water and drainage and get rid of the rest, including river management. Watts' response was: *No way, river basin management, we take the lot. Roy Watts saw a lot of glamour in that side of things...He had big ideas for the tideway* (Harper). The Directors of Corporate Strategy and Finance worked very hard with other people in the industry to produce a model for privatisation that would work: *We struggled heroically to make the case and we came very close actually* (Harper). The idea was to have a small specialist body to undertake regulation. Given the monopoly industry, they had always accepted there would need to be a regulatory framework for water prices and quality. The former Divisional Manager for Rivers outlined some of the problems: *Flood defence was a difficulty. So I saw documents which would have given the water companies 20 year licences to run flood defence.*

Watts was determined to try and hold what he felt was the key concept of integrated river basin management together, that is what had created the WAs, there was a lot of management and strategic planning merit to it and he fought it; despite being advised by his MD that he could not win: *It seemed to me to be impossible to win but he stuck to it to the last and made it a personal article of faith it was to be done that way. And when eventually it wasn't, frankly he was never quite the same again after that.* Thames immediately began a campaign to lobby against an independent regulator. Bill Harper was reported in the press as saying: *...this development is clearly a disappointment to the authority, which has made it plain at all times that it believes privatisation should proceed on the basis of retaining the present pattern of functions.*

Watts told MPs that the forecast £1bn flotation value of Thames could be cut by £100m and prospects for international business damaged by Ridley's decision to

introduce a new quango. Believing that an independent regulator would undermine IRBM principles, the real concern was the potential damage to Thames' chances of exporting its expertise in the area. This was particularly salient at a time when the Reagan administration were planning a $20m restructuring of the US water industry. Watts' persistent opposition to the government proposals in appealing over Nicholas Ridley's head to Tory MPs finally resulted in a showdown in which he was threatened with dismissal if he did not curb his opposition. Bill Stanley remembers the critical meeting between Roy Watts and Nicholas Ridley: *Roy was steeled up for this meeting, to develop this issue. And he came back within a few minutes looking immensely cross. White faced, having to stride back round the corner from Marsham House to Smith Square...he didn't say a word for about a day and he had to drop it.*

With the implementation of COPA II Thames set up centralised cash programmes and brought the operational science group together to report and sort out the problems. They set up monitoring and management procedures and were independent both in a policing audit role and also a service trouble shooting role. The programme was successful as a former assistant Divisional Manager explained: *A lot of people working together did a lot of work very quickly. They cut a few corners along the way but they had to.* Two drivers for the necessary speed of the programme were privatisation and the 1992 target for compliance: *Nobody would want to buy a company that was failing to meet all the statutory requirements, so we really had to get in shape for that.*

Despite the cash programmes, this period was a poor one for pollution control, with sewage works undergoing efficiency drives and failing their consents. This was reflected in the 1985 DoE national river survey, in which Thames showed a net -3% of rivers changing class with no change in estuarial quality. The NRA Manager for Thames region summarised the root of the problem: *I think it was summed up by the*

fact, that in the last year of its existence, Thames Water prosecuted about six times and we notched up about 90 in our first year as the NRA. Despite COPA II there was a lack of management will to prosecute and unless there was gross pollution they had difficulty taking people to court because they failed their consents. The Environmental Science Director confirmed the situation: *Little monitoring was carried out, little concern about meeting the EC directive that was already in existence.* The effort was put into areas that were thought of as public health concern while consents continued to fail: *There wasn't the political will at government level to prevent there being non-compliances. While some of it was no doubt poor management, a significant part of it was just lack of investment.*

8.5.6 summary of commercialisation

The pace of change accelerated with the arrival of Roy Watts who got a focus on the organisation with the various efficiency measures: *It was an enormously turbulent time from '83 onwards: a huge loss of staff, monumental restructuring again, fewer divisions, different changes of functions at the centre* (Bill Harper). This momentum carried on but slowed when Watts turned his attention externally to the privatisation issues, as the new CEO found on his arrival in 1989: *So it was at that period when the company slowed down in its rate of change.* At the end of the commercialisation phase the utility business had been wondrously changed. It was demonstrably more efficient, the organisational pattern was more coherent. People understood what job they were doing and where they were doing it. There was a good team atmosphere in the management team, the task was clear, they had a good development plan. The impact of the new Chairman had been key: *I think that the whole concept of the company as a worthwhile object of service...for the sake of the company was improved and increased by his influence...he provided I think, the leadership that was needed at the top* (Planning & Support Services Manager).

8.6 Recreation: Privatisation 1987-89

Preparations for privatisation continued apace. By flotation manpower had been shed by 1750 and a quarter of senior managers were recruited from outside. The most influential was Mike Hoffman, brought in as CEO in the last nine months to see through privatisation. Roy Watts had become so involved in the privatisation issue that he had to some extent taken his eye off the company: *So it had gone through a sharp change, it had plateaued out and was ready for a really big change after that* (Hoffman). For Thames, this next change period under Hoffman would be as swift as it was significant. The organisational message was that change was synonymous with being a private sector company. Thus 1989 was the year in which a fundamental change in ownership was combined with an internal reorganisation of divisions and management, to see through the change with optimal efficiency.

8.6.1 management and structure

The enormity of the task ahead was given by the then MD: *One of the things about privatisation was there was going to be capital, so we were beginning to see our way through to a big capital programme.* This involved changes in work practice to project based roles affording more management accountability. These were supported by extensive management training in which 104 top managers went on external courses, alongside supervisors and first line managers. Additionally an enormous investment programme was launched to comply with standards set by government and the EC, while further rationalisation continued with the selling off of expensive London offices and cutting laboratories from hundreds down to tens. In 1989 a last major reorganisation took place which made all the divisions functional again.

Hoffman came at the beginning of 1989 with a history of rescuing ailing companies and then leaving them. According to one Thames Manager he arrived in the organisation like a "bombshell". Hoffman's gave his perceptions of management on

arrival: *I thought there were some very good managers and some people that did not read the creed and those that hadn't read the creed were people who just could not accept change at the pace it needed to go...* He was considered a ruthless manager, focused on reducing costs and improving quality: *That was a great big shock because he charged around the place upsetting people left right and centre, demanding things of them that they had never been demanded of before...He did a lot of good in terms of getting people to realise that they could take a step change in their expectations of what could be done. A lot of people could not take it and went under or went out* (Personnel Manager). In the same year Bill Harper was replaced by Mike Hoffman who took over the MD role alongside his group MD responsibilities: *We had to change faster than he believed and also I think Thames PR at the time had out-run it - in other words we thought we were better than we were...*(Hoffman).

The divisions were reduced to two: sewage and water with operating districts underneath. The then General Manager of Water found the change advantageous to the impending privatisation: *And we could then start looking at the whole lot and start bringing in standards. It was a golden opportunity as well, for a big shake-out, (and to) shed a lot of people at that time.* Hoffman's particular contribution was the introduction of systems and IT. The first annual report of the transition to the private sector states reorganisation as the theme for the year. An indication of the challenge felt by the organisation is given in the Annual Report: *We have adopted the operational theme "Make it Happen" to emphasise our total commitment to our new circumstances* (Thames Water, 1989/90).

Hoffman felt that the organisation displayed systems which reflected its planning and financial orientation: *So there were no systems in any way that were supportive of operations.* For instance he recalled the first sewage treatment works he visited in which all the data of a purely historic nature were recorded in what looked like

huge school books: *There was no what I call diagnostic or forecasting data.* His aim was to set up an IT platform, or strategy: *It meant that you did not control the information, but you knew how the company was run...*For instance, in combatting the failure level of sewage treatment works, an IT systems support was installed to control the works processes. Hoffman explained the effects: *Then you can actually run the processes near as you possibly can to the limit and you save on power, chemicals etc. Also you give local autonomy to the guys running the plant.* A lot of effort has been expended on modelling to get predictive data and corporate modelling. The IT strategy was scheduled to be put in place within five years which was achieved: *The other important thing was, that I did not allow any deviation down the track. In other words, what we set out to do at the start was broadly what we delivered.*

The capital works programme was an immense undertaking, requiring the authority to spend £400 million a year. In order to oversee the programme, engineering was centralised into an engineering directorate to look after the large capital works. An office block was acquired for the purpose, computerised to state of the art design, again reducing the numbers of people and called the "centre of excellence". There was a longer term plan: the logistics project, which aimed to reduce all the stores around the group and standardise the way in which they operated. Then a programme of training all management up to a common standard at Templeton was initiated. This was followed by a similar programme for supervisors at an operational level. Improved vocational training was introduced for technical employees. Performance related pay was linked to a job evaluation exercise for middle managers. Also, further manpower reductions were made during this time along with the implementation of a new pension scheme.

One of the biggest jobs was the writing of the prospectus which meant a complete overhaul of everything in terms of information and policy and weaknesses or

strengths within the organisation. The former Corporate Strategy Director explained the position: *We had to iron out any issues that would be a problem for the stock market or for investors in terms of risk...* In fact almost all the pamphlets and statements of the authority previously made public, were destroyed. It was a question of virtually reissuing every statement. And every document had to be very closely vetted by the legal people and by the merchant bankers, working almost constantly for two or three years.

The customer assumed an important focus: *Interestingly (there was) a strong infusion of customer culture which began to manifest itself in organisational and system changes, which even now are only just beginning to fully pay off* (Harper). Thames response here was to establish a Customer Service Bureau, to liaise with the CSC, to introduce a code of practice and wrestle with the problems of getting the new flagship centre for customer accounting in Swindon up and running. Positioning the centre in Swindon when most people had been working in London meant recruiting around 300 new people who could be more easily introduced into the new ways of working. The "one stop customer shop", as it was called, was originally planned to operate from 1996 but that changed to 1994 successfully, although not easily: *We have had a hell of a struggle to get it going* (Hoffman).

8.6.2 formation of the NRA

At the time there was a great debate on the NRA and what it should look like. It started off with an idea of 40 people in Thames region doing high level regulation and it ended up with 1300. There was no shortage of ready staff, for as the NRA Manager for Thames explained, this new organisation suited everybody: *The old navigation people thought they were going back to Thames Conservancy. The pollution people thought they were going to be liberated at last, they could actually be the policemen out there and do a good job and the old rivers would improve. The*

flood defence workforce, (had been) frightened by Roy Watts and his commercialism.

On the whole therefore, the transfer of staff to the new organisation was a smooth affair. The only contentious aspects concerned transfer of non-scientific staff and of buildings. All the second best people seemed destined for the NRA and they were being pressured to move into rented accommodation. However a beneficial deal was done to acquire the freehold of a Thames building: *On a professional basis we suddenly were several miles apart. It was a fairly tough time...In the end we were fairly happy that we'd ended up with a fair split of the assets* (NRA Manager). It was Hoffman's policy to make the NRA split as smooth as possible: *We ran their systems with a suitable lock-out so that we could not get at data finding for two years, until they got theirs...I felt if we did a reasonable job of moving them out there would be no scores being settled... we have very good relationships with the Thames region NRA.*

Initially the NRA held off from prosecutions because they realised that Thames had a capital programme in hand of £200m which could not be implemented overnight. But as soon as it was deemed reasonable the NRA were not slow to fulfill their function which created tensions between the two organisations. The Regional Scientific Manager for the NRA described the situation: *They were very immature about things which they liked to call company confidential... .but the water companies were big boys in the outside world and they had to comply with the law...because the NRA took a different line from the water authorities. By and large if it was a prima facie evidence of transgression we would prosecute....and in fact it was not a popular approach to put it mildly, (we) had some fairly heated discussions with Thames on the subject.... but I think they understand our position.*

In September 1989 when the functions and assets of WAs were transferred to the newly created water companies, they agreed, as a condition of their terms, to a ten year capital expenditure programme which for Thames was worth £4 billion at 1989 prices. By November when the industry was privatised, Thames became one of the largest utility companies in the world. But the changes throughout the 1980s had prepared Thames. One of the things that did change totally was the attitude of the DoE towards compliance, as the Environmental Science Director outlined: *from "no it's not needed" overnight to "why aren't you complying, why all these failures, when are you going to do it?".*

8.6.3 summary RWQ and regulation in the public sector

Throughout their public sector existence, TWA had retained pollution control at the centre. Their General Manager for Water explained: *Otherwise I think it would be too close to the bone.* Regulation could then be properly regarded as "the enemy" and maintain their regulatory function. But the overall performance record in terms of maintaining sewage treatment consents did not reflect much success in self-regulation. The Planning & Support Services Manager explained why: *Well, I think looking back it's probably dubious, that you should expect somebody to effectively regulate themselves...But it's out of order if you are told that your expenditure is capped...Well, you make the best of a bad job...And it was the reason that river quality standards were down-rated, they certainly weren't up-rated, at anything like the necessary rate.*

The Manager of Sewage Operations takes an alternative view in attributing poor regulation to a lack of management skills and in particular, strategic thinking: *There was no 'how do we manage this process, how do we use technology?' Linking all of those things together and saying 'what is right?'...The trouble was you had all different parts of the organisation promoting actions. (there was) no well integrated strategy.* The preoccupation with financial controls and the belief that there were no

service problems meant data had never been rigorously collected and the gradual decline in works went unheeded: *The Management Board of the late 70s early 80s rarely received performance reports. There wasn't a drinking water quality report. There were some numbers in the annual report but there were not any sense of problems, so why create all this information if it didn't tell you anything. But as you move down on into the 80s it was becoming manifestly clear that there were problems* (Harper). The reluctance to accept that there were problems meant Thames could not convince successive governments of whatever complexion, that investment was needed. As the Planning & Support Services Manager argued: *The government were able to say that Thames was sort of holding its own. That was one of the arguments against increased capital investment at the time. Of course, that was all overturned by the EC directives.* Meanwhile there was beginning to be a backlog of investment required and the rivers deteriorated, including infrastructure problems like the weirs on the Thames.

RWQ therefore deteriorated between 1980 and privatisation, largely because of the cut in capital investment and a reduction in staff numbers, including pollution control which served to reduce their monitoring. The Regional Scientific Manager of the NRA recalled: *...so they were barely capable of doing what had to be done.* He explained the tensions between PC and the water quality planning sections of operations: *One of the tensions was that there was a perception, particularly in the run up to privatisation that we (TWA) got pretty cavalier, that water quality objectives were not very high on the list of priorities.* The levels of pesticides had also been growing during this period and by 1989 it was clear that substantial investment was going to be required. Thames' late awakening to matters environmental are largely attributed to the leadership focus at the time: *Roy Watts was into efficiency, privatisation and that sort of thing and almost the environment became important when it became important to the City* (NRA Manager).

In terms of regulation the verdict was a lack of even-handedness because of the inability of TWA to prosecute itself. The NRA Regional Scientific Manager explained that as TWA's own capital programme was constrained by cash, this meant a difficulty in pushing other polluters: *The fact they were under pressure. It meant that others (polluters) didn't have the same pressure put on them as they would have done I suspect.*

8.6.4 summary of the public sector

The privatised Thames inherited an infrastructure that had been running down over a 12-15 year period. This was felt on the operational side just after privatisation: *Two or three quite important things went wrong...the system had got to the stage where it was really creaking* (Personnel Manager). There was no management policy until the mid-1980s for dealing effectively with organisational problems. Even then a management culture was slow to be established and one new director's experiences of top management meetings were a farce in terms of resolving issues: *Information is power because that was in the old Authority days. Senior managers were good wheeler dealers... they were good compromisers, they managed the organisation that way. Things didn't come up through top level.*

The relationship with the DoE was always ambiguous, because as the former Corporate Strategy Director explained: *They would be lambasting you for failing to achieve standards and then they would be refusing you the money in effect, to do anything about it...* Their budgetary horizons also dictated the way in which capital works were managed: *You found a lot of projects were split into small parcels, so that if government funding stopped, you had got a usable entity at the end of it* (Hoffman). The 83 Act did achieve some change in the culture, especially in terms of efficiency but they needed the financial freedom which came with privatisation.

8.7 Continuity: Private Sector 1990-94

This period is characterised by a continuing increase in the number of strategic issues, mostly internally located but equally derived from internal and external factors. Under private ownership the network of accountability has widened and Thames must now deal with a greater variety of external influences. The distinctiveness of this period is the decline in the number of financial issues relative to previous eras and the increase in stakeholder issues. Thames adopted four principles: *Seek to excel*

Put the customer first

Respect the employee as an individual

Careing for the environment

which encapsulate the strategic concerns of the organisation until the present.

In this period the extended external stakeholder membership is making its impact felt for the first time. On the regulation side a whole host of investment programmes were begun to comply with impending regulations from Government and the EC. Thus in the 1989/90 Annual report there are references to major investments in sewage and the introduction of enhanced sampling programmes to raise quality on the clean and dirty side. There is also a welcome for the Government's code of practice on conservation. Thames' community affairs policy is revised to promote community relations and a customer guarantee scheme implemented.

8.7.1 policy and management

The management team are very company oriented now, particularly at senior operations level where there is a lot of focus on a uniformity of approach. The business drivers are clearly articulated in the company as cost, quality and risk and all decisions are made in this context. This is largely due to the pressures of shareholders but the freedom to acquire capital has brought benefits: *The company if*

it wants to do things grabs them and makes sure they're done now. There is a much more aggressive management style...(Planning & Regulation Manager). These pressures on management have also meant that about half the directors brought in from outside since privatisation have gone within six months. The driving force behind assessing their performance is Mike Hoffman.

Efficiency is an ongoing issue in terms of getting the balance right between lowering costs and maintaining quality. A key aspect of the overall efficiency drive has been the IT strategy driven by Hoffman, the Utilities MD Bill Alexander and the IT Director, Mike Ribbins. IT has been used to drive through continuous organisational change: *It's a peg to hang change on. You can say "hey of course you can do better because I'm spending some money on it". And people don't take that as much of a personal insult about what they do* (IT Director). Through the logging of every piece of work on a management system, IT has been instrumental in removing bureaucracy. It has allowed teams of people to be created, enabling them to take more decisions which in turn has changed the role of managers from decision-maker to coach. As the IT Director explained: *The manager is the person who understands best how to do things. So the manager is there to support and coach, not to track and take decisions.* This has facilitated the delayering of management as the three or four levels left in the organisation are the only ones which add value to the work and how it is done.

In more practical ways IT allows the rationalising of suppliers and closer working relationships. This has meant a lot more effort needed in negotiating with key suppliers. The IT Director described their results: *You've got to get the framework agreement right...The relationship is just totally different. I mean the key suppliers I've got...they are absolute partners in what we do. If you walk around the building you couldn't tell which are the suppliers and which are the 10 people who work very*

closely together. Thames' aim is to come down from the 16,000 suppliers they have currently to between one and two thousand.

IT has also served a vital purpose of making all kinds of information about the company widely available, thereby breaking up the old authority style of `power is knowledge'. This is now called "management by facts": *Because that was a culture change needed...With the old system, before you had an IT platform, knowledge was power, whether you were a turn-cock who operated valves in the street and because we did not have maps to know where they all were, you were absolutely vital to Thames Water. Or whether it was a manager that knew what was going on in various places, because he was round and about and kept that information to himself* (CEO).

8.7.2 employees

The employee project has seen the biggest change for manual and craft employees in the last few years. All the previous demarcations were taken out and the number of jobs rationalised to 21 broad jobs defined by job profiles. Performance related pay based on outputs began in March 1995. There are now only three layers of management between the senior management and the workforce. Monthly performance reviews are held with the MD. These are linked to forecasting future performance, finance, quality performance factors and quality forecasts which cascade down the organisation to local teams which own subsets of those performance measures. The Manager of Sewage Operations described some of the outcomes: *They actually rotate between themselves who is running what piece of plant and actually set each other challenges to do...so there is an element of competitiveness which is not other than a positive one.*

Previously operators did not feel ownership for treatment works performance, seeing their roles as purely functional. The Environmental Science Director

described how this has changed: *Now we have tried to get people to buy into the works performance being their performance.* This has been a significant part of the culture change alongside getting teams of people to manage the works: *It is their responsibility to get that works running, everyone there is important in that process everyone has got to know what their impact is.* Putting in quality management procedures has helped efficiency because there are now procedures to document when things go wrong and management must provide a solution. Privatisation has allowed ideas and investment to be applied to the business quicker. So the whole concept of quality assurance is now fairly well developed and people on the ground are now much more involved...*I think everyone realises there is no question of any divisional barriers any more, you work for Thames. Thames style of doing things is the way you are doing it...I think in terms of output standards are higher* (former Planning & Regulation Manager).

There are reservations that the ideal of work ownership has permeated right to the bottom of the organisation and that some employees may even feel alienated because of the constant changes. For instance, Thames has decided that everybody will have more than one skill, thereby reducing the numbers of those not capable of acquiring them. To this end, productivity programmes have been introduced for employees and skill certification authorised by the Board. Hoffman explained: *Broadly we are lifting the skill level up and sub-contracting all of the straightforward easy jobs...But you would not get 100% agreement with the guys or girls at the coal face that the changes have made their lives easier. Because some of them cannot face the challenge...That is just a question of training, walk about management and trying to involve people.* Those that feel that their jobs have been made much more worthwhile have welcomed making their own decisions and taking on responsibility instead of just twiddling valves: *The difference is an attempt to enlarge everybody's job. It is almost something that has to happen if you are going to cut numbers and you are going to make people really count* (Planning & Support Manager).

Now Thames is starting to benchmark areas of excellent team working to transfer these over to other work teams. This style of operating is very much underpinned by a quality management work schedule: understanding effluent consent standards, operating standards and quality management systems. The Sewage Operations Manager explained the thinking: *...just trying to challenge people to give more flexibly.To have the opportunity to use their skills to the limit.*

8.7.3 customers

The customer focus is also another important issue which is monitored very closely as it represents the biggest threat to Thames currently. Byatt found that the number of complaints going to them was increasing and putting a lot of pressure on his department. As the Environmental Science Director explained: *We are still trying to be more customer orientated, trying to get that into the mind of everybody, that customers are what matter in the end because they are the ones who pay the bills...* Thames have moved from *very poor* to *poor* on customer response times and their aim for 1994 was *very good* whilst hoping to get *good.* Although the IT Director feels tremendous strides have been made within the company there is still a need for increasing performance measurement. A key issue for the next century is how to deal with a forecasted increased demand for water. Thames' response has been to identify underground sources and begin work on a new reservoir in South Oxfordshire.

8.7.4 finance

On 2 January 1990 Thames joined the FT listing of top 100 companies in the UK. Expenditure has continued on the LWRM project and in response to environmental legislation: hence the refurbishment of sewers, the drinking water quality programme was stepped up, including new investment in treatment works. Also, investigations into sludge incineration began in response to legislation to cease

dumping. But the issue of how much capital expenditure to invest is still very much alive. The Planning and Support Manager described the issue: *Certainly in Thames we are not spending on the long term rate what we need to, but that long term rate may not hit us for another 20, 30 ,40 years.* Despite the assets being in a fairly good state there will need to be more expenditure if they are to last into the future: *There is a big argument as to, "do we really keep on top of everything now and do it for the future, or do we just do what we have to do to make sure its not too bad for the future?"*

They are also focused on cost savings which has become extremely pressured. The targets set by group to utilities capital are quite large and it is the intention to meet all of these. Efficiency measures under the logistics project have controlled operating costs. This allowed the Project Manager to make a huge reduction in staff: *I got rid of virtually 90% of the staff, about 250 to 300 people.* The advanced capital programme in allowing the purchase of new technology has also significantly cut numbers. Manpower has therefore reduced at an even faster rate in the early 1990s than in the 80s, for example, a reduction of 421 in 1992/93: *And I guess it will carry on doing so as well. Pressures of being in the private sector are much stronger of course than even Roy Watts could exert* (Planning & Support Services Manager).

The periodic review was an all encompassing issue in 1994 as it was central to all the capital programmes that were to be put in place and the ability to finance those. The General Manager for Water explained its importance: *We have got to make sure that we are going to be in a position to finance whatever obligations at the end of the day it is accepted that we should carry out.*

8.7.5 structure

The latest reorganisation is attempting to decentralise the organisation again. The aim is to set up and manage business units in divisions, functions like accountancy and personnel will return under the senior divisional management while retaining a dotted line function to the HQ director: *The centre has had control, then it moves back out again and its difficult management juggling, decentralisation, centralisation, whichever you try to do actually* (General Manager for Water). Hoffman believes that all structures should be varied periodically: *We've opened it up so that Baronets, Baronesses will not be created...The big advantage now with corporate systems as they are with IT, you cannot take the isolationist view you got in the past.*

8.7.6 culture

The cultural change has enabled the decentralisation to be more successful than under the authority structure, as the Environmental Science Director explained: *That evolution is indicative really of a confidence in people now, that you can trust them more, that the culture has become more Thames and less of the dissident organisations.* There are a lot more standard working practices enabling the company to give people at a lower level much more power over their work. The organisation is seeking to strike a balance between the freedom to manage and a very centralised policy. For instance, the Personnel manager explained some differences in working practices still persist today but management are more sanguine about the effects: *You have got to draw some sort of boundary and say, well at the end of the day you have got to let managers manage and do it the best way they see fit and that does not mean everything has to be standardised.* The emphasis now is not so much on standardisation as on a uniform standard of service. This has resulted in a reinstatement of some of the divisional functions which had been centralised in the mid-80s.

It is seen as crucially important by Hoffman that management share the cultural values of the organisation: *Even now there is probably still one third of management that don't share my philosophy and the fact is they have got to go.* At the senior management level, those who disagreed have gone since privatisation: *...just cleaned those right out, because you cannot have people with a different view of how the company is to be run at the top.* Nevertheless there are cultural remnants of the PH ideology as the Network Service Manager described: *And even now you can go out with some of my guys and they will still talk about the Met Water Board because that's where they originally worked...The ghosts are still around.* The concept of privatisation, too, is still not wholeheartedly accepted: *I guess you will still find plenty of people who work in our organisation who have misgivings about it...and will point to other things like the poor performance of our non-utility non-regulated acquisitions...* (Personnel Manager).

Despite the enormous expenditure on IT, and getting four levels of managers to link in with it, the IT Director still sees blockages to change: *I don't think we have in the main a set of people who use the infrastructure very well. And I think the next major challenge for us is to focus on the people.* This has now led to the matching of data to business lines and people, with the ultimate aim of becoming a learning organisation: *What people out there need is coaching in the use of technology.* Managing through the pitfalls of technology and allowing people to make mistakes is seen as important in helping people to accept technology, as well as a culture change for people who previously were not used to making errors in the first place.

The IT systems in place have allowed financial accounting to be streamlined across the organisation. The latest shift is to activity accounting: *Because these days you can monitor much more than just pound notes. You've got to break the business down into activities and the activities down into key performance indicators.* However, there is still a strong element of psychological inertia within the

organisation in terms of escalating problems and accepting that they need help. As the IT Director complained: *They sit with problems, bleed money out of the company, affect quality, make our customers absolutely mad...And often just for the sake of someone picking up the phone and talking directly to the customer.*

A consequence of ongoing rationalisation has been continuing redundancies. But despite a vision statement expressing care for employees, the Personnel manager is aware staff are apprehensive which has made management difficult: *I still think in the main out there, there's an atmosphere of fear, people are worried out there...They are frightened of making mistakes and there's a lot of job losses....So managing that kind of environment, that kind of culture in that kind of environment has been difficult for us.* This is true no less because of the constant changes over the past years, as an Administrator explained: *In fact we have even been told that change is going to be permanent from now on...In a way that's not a bad thing...But in another way it makes for a great atmosphere of not knowing where you are.*

8.7.7 comparative competition

The Personnel Manager explained how surrogate competition pressure has made an impact on the top management team decision making: *At the top the comparative competition does matter and does actually hurt quite a lot. The fact that Ian Byatt can put up a list of achievements against performance targets and Thames Water comes eighth out of ten, it hurts. If you are a manager or MD, in charge of that, you want to be higher up the list...It is a matter of personal pride.*

Comparative competition also has very tangible effects in terms of share price. This has certainly had an impact on the review of Thames' pricing formula for the periodic review in 1994. The league tables thus condition both regulatory and financial freedoms. However, the comparative competition measures are not

necessarily regarded as valid when it comes to the quality and quantity of the water supply, because they are so dependent on the regional circumstances of the company concerned. For instance, as the Planning & Support Services Manager explained, Thames will always be behind in comparison to Northumbrian on some measures, such as: *The degree to which we can assure people of water supply throughout a drought, which is one of the measures. They (Northumbrian) are always going to be a mile ahead of us...I don't believe OFWAT has gone the right way about taking things into account.* Climate, topography and density of population all make a difference.

8.7.8 future business

The key issues for the future are customer perceptions, regulation, and for the CEO of Thames, income generation:*Trying to find a way of augmenting the income outside the regulated business, because the regulated business will slow down profit growth...Our skill will be...make it last a bit longer before it turns down. But in the end, what you are trying to do is to fill that gap with other earnings.* These other earnings include expanding close to the core business which takes time to become profitable. One of the biggest opportunities is the world-wide privatisation market which Thames have entered successfully acquiring, among others, a big contract with Mexico. Thames' key assets abroad are its management systems and people, as Hoffman explained: *You would take the Thames formula for doing things, if that is the appropriate one in that case, and 4 or 5 key people...we have got people in the company with big skill levels on almost all the problems that arise.*

8.7.9 regulation

After privatisation Bill Stanley was responsible for setting up a planning and regulation unit to manage relations with OFWAT and any other group: *There was a lot of learning on both sides. (There was an) immense amount of information that*

OFWAT wanted, far more than the DoE had ever wanted. A lot of effort is spent in managing their relationship with OFWAT.

While there has been surprisingly little day to day contact with their former colleagues in the NRA, on the whole relations have been good. At privatisation Thames were required to comply with their consents and according to the NRA Regional Scientific Manager were quite successful: *Not just the consent compliance but if you look at things like BOD removed you can actually see the polluting load that we were discharging into the rivers reduce significantly, between '89 and '92.*

Nevertheless the first national rivers survey undertaken by the NRA in 1990 show Thames in the period 1985-90 to have made a net 14% decline in river length changing class. This is a deterioration of 11% on the 1980-85 DoE survey. However, the NRA confirm that over half the changes in class can be attributed to Thames greatly increased monitoring programme. Thus some of the changes reported could have occurred prior to 1985. Additional factors responsible for the deteriorations were unusual weather during 1990 (202 km total) and poor effluent quality (64 km total) (NRA, 1991a:38). Improvements in rivers from class 3 to 2 or 1b accounted for 63 km while those attributed to improved effluent quality totalled 15 km. The NRA Manager confirms that Thames have not made a proper assessment of RWQ in the past and had underestimated the deteriorations but that the next survey should look better: *They doubled their capital programme on the sewage treatment works and instead of 100 works failing they have got five or six. And the river water quality is beginning to reflect that.*

The Environmental Director feels that RWQ is not attributable solely to sewage works standards and cites evidence from the NRA to suggest that at a significant percentage of works, the difference they have made to the river is negligible or unknown because of a lack of data. He points to other factors such as agricultural

and industrial pollution and climatic and river conditions: *So you are always trying to sort out what is actually natural processes going on from the actual step-changes that you have done by changing the input to it.* The NRA echo these arguments to some extent, as their Regional Scientific Manager explained: *It is difficult to work out whether partly it is due to Thames Water investment, partly due to climate changes, partly the recession, you get variations and you have to sit back and look back over time, but all the signs are quite encouraging.* A related issue is of course the cost of improvements relative to the noticeable difference in RWQ: *If you want to achieve a particular thing let's look at how we can achieve it and not just be driven down by a system which says this is the answer...money can be spent but in the end people have to pay for it* (Environmental Director).

The NRA's Regional Scientific Manager feels Thames need to be a bit more open with their investment programme which is considered sensitive information because of the effect on their share prices. This is gradually changing and he feels the outcome of privatisation has been positive: *Yes, I think Thames probably would not have got the investment done in the public sector...I'm not saying it could not have been done some other way but certainly it has been positive.*

The AMP2 exercise has brought the NRA and Thames much closer together in terms of agreeing improvements for the waste water directive. For the NRA Manager's part: *We have been working very closely with them to make sure that we get good cost effective investment in the environment out of this process.* In particular the NRA is working much closer with Thames in coming to accept that rivers will never be the pristine condition they were before the impact of people. This has shifted the discussion to agreeing where the priorities really ought to be.

One criticism of the NRA is their sampling regime which tends to be once a month whereas Thames' own is more consistently based upon statistical sampling. From

the viewpoint of the Operations Manager for Sewage: *I'm not sure you can describe that as a terribly scientific regime of regulation.* These sorts of issues have led to wider discussions within the industry on self-regulation and how it might work. Certainly some of the regions are seen to have greater flexibility in consent setting but the national NRA are seen to link the UK benchmarking approach with the European one of absolute standards.

Despite the good relationship with the regional NRA, Thames have not got a good one with the national body as Hoffman explained: *Only because of personalities and different visions of where to go.* One of the problems with the NRA nationally, has been coming to an agreement on the standards of water quality and the sorts of timescales within which these are to be achieved. This directly impinges on the work of the Planning & Support Services Manager: *I view the NRA as having unfortunately a different sort of timetable and schedule than I've got. Being unprepared to define the future as they see it, at the sort of timescale that we need to know it...The NRA is still very strongly influenced by the old River Authority scene. It's very gentlemanly and all that but it doesn't want to be rushed about.*

Similarly with OFWAT, Thames try hard to manage that relationship but it is highly variable on reaching agreements. According to the Regulatory Planning and Support Services Manager: *Relationships are I guess reasonable but strained, because I guess we have got different aspirations.* One of the tensions is the increasing demand for information. The Network Services Manager described the significant impact on management from the greater efficiency imposed by the K factor: *That's part of the business sense, which perhaps has become more ingrained, certainly at senior levels of the organisation. You have always got to be looking for improvements.* Hoffman explains his view of their relationship with the regulator: *OFWAT are the customer personai, that's the only way to look at it and I*

spend as much time on regulation as I did on marketing and product development in any other company and that is a lot of time. So I do not see a problem.

Thames' view of the NRA is spelt out by the Head of the Legal Section who sees this as evolving positively: *Not surprisingly some folks in the NRA would see themselves with a mission to clean up the environment...Over the few years that have gone by a sense of realism has entered into it, in particular that sense of realism has speeded up considerably now we are getting towards the finishing line on the periodic review.* This has been largely due to the DoE persuading the NRA to accept some limitations on the amount of quality improvements that it will ask companies to pay for as part of the whole K deal for the next five years.

Thames is fortunate in not having any seaside to clean up but they have nitrates. The NRA Manager for Thames region believes the company does care more about the environment now because it is favoured by the City and customers: *They have begun to convince me more and more, that they mean business on the environment. They see themselves as a high investment, high quality player, with high returns on capital for shareholders.* It is in Thames' best interest to invest in capital projects like sewage works because by improving quality there is that much more scope for improving profits. As the NRA Manager points out ultimately their basic motivation is to shareholders: *I think they have probably got intellectually a more difficult thing to square, we can be single minded, we want to improve the environment.*

Thames want to be seen to be environmentally sound but have to balance this against what customers want to pay for. The oncoming regulations have made it very difficult to keep costs down and cutting profits means more borrowing which increases charges. As the Regulation & Support Manager summarised: *The argument is about paying now or paying later.* Increasingly, the most pressing issue has been one of how to balance future charges with the increased expenditure

demanded by environmental legislation. Thames has to spend around £450 million just on the EC drinking water directive but that investment takes time to phase in major engineering works. The Environmental Science Director explained: *So we are still fighting the problems that existed before many of which government didn't want to know about.*

In response to the quadripartite talks, Thames has published a market plan in order to flag up the issues with consumers around mandatory and discretionary expenditure. The outcome has been to convey consumer desires to OFWAT and the government on their preparedness to pay for environmental legislation. At the current time it would appear that the public is only in favour of essential improvements in water services, such as prevention of foul flooding, which have an immediate impact. The reluctance to pay for more long term environmental improvements may mean that the government has to backtrack on agreed EC legislation and renegotiate their terms. Hoffman summarised what he saw as the main debate for the future of regulation: *I think the debate is about how much you can afford to pay on the one hand and secondly, on the time scale that you can bring the changes in.*

8.7.10 summary private sector

The general view of Thames since privatisation is of a reasonably successful business. The Deputy Chairman gave his opinion: *As far as I am concerned, it is more efficient gives a much better service, is much clearer in its direction so all that change paid off in the end. It is a much more integrated, cohesive, single minded organisation. There is a lot more shared language around the place than there ever used to be. A sense of all being part of the same thing.*

In many cases the new concepts are perceived as beneficial but also increase the pressure on the workforce. Senior managers have noted that human resource

changes have not been easy, and in some cases have taken up to 12 months longer than anticipated: *I think some people find the work a lot harder and more demanding, not necessarily less attractive...So I would say there is quite a fundamental change there and I think on the whole you would find that people welcomed it. I suspect that you would also find reservations as to whether it has all been pushed too far. And whether the balance is right* (Personnel Manager). However, the promotional prospects are much better in the private sector according to the former General Manager for Water, particularly for managers who have the right abilities: *If you beat the overall budget there's a bonus for managers and directors. Much more of a chance now. Before it was dead man's shoes. When I think where I arrived at to where I expected to arrive its light years away.*

There are differing views as to whether the change of ownership was necessary for the benefits of privatisation, as the Personnel Manager conjectured: *We could have but I don't think we would have. I think privatisation has been the spur that was needed...* Others like Bill Harper feel that the changes have less to do with privatisation than a change in organisational culture: *Frankly that was not to do with the change of ownership. That just enabled you to push to a logical conclusion some aspects of the member framework. We are still regulated so we are not masters in our own house. But this sense of ownership of the organisation and its direction, of a clear view of priorities, a lot more emphasis now on performance...You just would not credit it was the same organisation as ten years previously.*

The freedom of the private sector has meant access to the money markets and the ability to diversify the business. But the regulatory framework, including stock exchange rules means an increased number of stakeholders to satisfy: T*here's more people looking over our shoulder than there used to be* (Manager Network Services). Management are sensitive to the external perceptions of the company in response to their heightened profile since privatisation. The Head of the Legal

Section sees the differing criticisms from a variety of stakeholders as leading to more of a defensive stance internally which had not existed before: *Privatisation is such an emotive issue that at a stroke one is portrayed as the bad guy whatever you do...That rubs off I think on people working in the company.*

8.8 Conclusion

Thames has exhibited a pattern of organisational development not dissimilar to Severn Trent whereby each period of continuity attempts to fulfil the goals of the preceding change period. The integration phase of Thames was equally bedevilled by internal conflict and a policy of decentralisation which inhibited policymaking and strategic thinking. The changes induced by a new leadership during nationalisation did not prove radical enough and it required an outsider to the organisation (and indeed the industry itself) to dismantle the internal resistances. Thames' role at the forefront of privatisation of the industry gave it a leadership status for awhile. It was the proposal to establish an independent rivers regulator which brought Watts into greatest conflict with the government and the point at which Thames' attention to internal matters was somewhat deferred. Like Severn Trent, the adoption of a private sector ethos was necessary for the formation of a new decentralised structure which would work. In the private sector Thames' biggest challenge internally is adopting the proactive management style necessary to make best use of a flat structure.

The TWA started life with a good base of RWQ. Since the 19th century the Thames made dramatic improvements, particularly under the guardianship of the Thames Conservancy who were responsible for all the upstream alluvial flows. This was not true of the estuary which was in a poor state at the formation of the authorities and according to their former Divisional Manager of Rivers, was improved significantly

by TWA: *The Thames in the tideway has been a lot better over the last 10 to 15 years than it was 20 to 30 years before,*

Like Severn Trent, Thames on its formation absorbed personnel with a commitment to improving the river. The general consensus is that RWQ had a high priority in Thames, attributed by the NRA's Regional Scientific Manager to the large amount of recycled water which Thames produces for drinking and their London base: *Whereas they might like to save money on their sewage treatment processes, they do actually have to drink the effluent. So environmental water quality is a high priority in Thames, very important and they have also got a tideway through London and Chairmen of the Authority were not too keen on having tea on the House of Commons Terrace seeing dead fish floating down outside.* Indeed, one of the key differences between Thames and Severn Trent was the comparatively little recycled drinking water of Severn Trent.

Nevertheless, despite its high priority, the rate of improvement to the river was a static one during the life of the authority, as the Planning & Support Services Manager made clear: *(In) the period '74 to '89, I guess that the river very largely held its own, but it didn't improve.* Economic pressures combined with an organisational denial of problems meant that although RWQOs were set, they were not given time limits, nor were formal quality reports produced. By the mid-1980s deteriorations were evident on the tributaries due to population expansion in the south east of the country, as the Strategic Planning Manager explained: *All those towns had sewage works which filtered clean but the population expansion put the pressure on the works.* The efficiency drives of the 1980s denied sewage works the capital and manpower necessary to cope with regional population changes. RWQ did not regain its former status on the organisational agenda, as with Thames Conservancy, until privatisation, with the real threat of prosecution. As a private

sector company, Thames has positioned itself as an environmental company and RWQ occupies a high agenda status alongside finance, the customer and employees.

SECTION 4: ANALYTICAL DISCUSSION

The following three chapters analyse the data presented in chapters four through eight. Utilising structuration theory (Giddens, 1979) from a Realist perspective (Bhaskar,1978), the evidence is interrogated in order to draw links between the industry and organisation chapters. Chapter 9 explores the aetiology, preservation and change of organisational ideology in the case studies. It seeks to demonstrate the way in which intersecting structural properties at macro and industry levels contribute to the character of ideology, and the way in which an ideology may be a force for inertia and change within organisations. In this respect the relationship between the structural properties of ideologies and the agential powers of management is crucial.

Chapter 10 makes out the case for the comparison of river water quality performance between Severn Trent and Thames. The more favourable trajectory of the issue on Severn Trent's agenda is explained in terms of differences in the issue, organisational and leadership contexts, which Thames' less favourable performance is discussed in terms of its leadership context. The difficulty which both organisations experienced, in keeping river quality alive, is then discussed in terms of the part played by structure, sponsor role, function and the external context. The resulting model of processes of strategic agenda building is then deployed to explain what makes different organisations attend to different strategic issues and how in the same organisation, different issues command different amounts of attentional resources. The model also has implications for the properties of structure and action.

Chapter 11 concludes this study with a review of the objectives of the work and the extent to which they have been met. This is discussed in terms of the relationship between structure, process and performance. Next, the research is

evaluated in terms of its strengths and limitations and the implications for future research explored. Finally this study's implications for the practice of change management is discussed.

9. ORGANISATIONAL IDEOLOGY

9.1 Introduction

This chapter sets out to explain how organisations acquire, retain and change their ideological character. Ideology is taken here to mean an enduring set of beliefs which inform and legitimise organisational members' work practices and their views of their organisation (Bendix, 1956:2; Mannheim, 1991; Wilson, 1973). In this sense, ideology is taken as a variant of organisational culture with a specific focus on the collective understandings about the role of the organisation in society and the nature and form of organisational practices. As such, this notion of ideology touches on members' conception of professionalism, industry beliefs, organisational norms and the social status of the work itself. More specifically, ideology enables management to explain and justify that authority. Or, more succinctly, ideologies are ideas used as weapons for social interests (Mannheim, 1991). As Aldrich (1979:167) outlines, ideologies serve three functions: they legitimise the particular system of productive enterprise in terms of its relations to the state and to the general "public welfare" of the society; they legitimise the manner in which enterprises control their employees and they provide a system of beliefs allowing entrepreneurs and managers to achieve a sense of self-justification for their roles in the system. From a realist perspective ideologies may be seen to grant causal powers to managers (Tsoukas, 1994).

In line with recent thinking about organisational culture, an organisational ideology is not assumed to be uniform and accepted throughout (Whipp, Rosenfeld and Pettigrew, 1989; Gregory, K. 1983; Pettigrew, 1985a; Whipp and Clark, 1986:42). Rather, a plurality of beliefs are envisaged within organisations, the inherent tensions serving to underline the organisational culture. Further, ideology has a dual character in being both the shaper of action and the outcome of those actions (Whipp et al, 1989; Knights and Willmott, 1987). As a product of a plurality of

social systems (Whittington, 1990) with their inherent contradictions, ideology may be both a force for conservatism and change (Dunbar, Dutton and Torbert, 1982; Gregory, D. 1982; Thompson, 1968).

A structurationist (Giddens, 1979) account of ideology is used to analyse its social structural roots and its means of empowering managerial agency (Whittington, 1992). The structural properties (rules and resources) of organisations are seen to comprise a large part of the values, beliefs and management styles. They also reflect industry characteristics as part of the social system in which organisational members participate. As such, ideology may be seen to justify managerial legitimacy by institutionalising the rules and resources drawn from wider social structures. These structural properties need only be drawn upon selectively however, or not at all, giving managerial choice to strategic initiatives (Whittington, 1992). It is the contradictions and ambiguities within and between different overlapping social systems which may be exploited to effect ideological change (see 3.8.5).

The key question for this chapter is how does the development and evolution of ideology shape the organisational context? Related to which is understanding the relative roles and relationships of context and action and their implication in organisational change.

The two case studies reveal a general pattern of ideological development and change, such that the failure of the integration period for the two organisations may be traced to, among other things, the embeddedness of the dominant ideologies. The period from nationalisation through to privatisation is a transition phase in ideological development. During this period the industry developed a hybrid form of ideology where NPM ideas and selective capitalist logics were grafted on to the

PH ideology. It was during the privatisation phases of the two organisations that a new ideological form finally emerged.

9.2 The Aetiology of Organisational Ideology

To understand the origins of organisational ideology it is necessary to look at both the internal organisational processes and the external context from which these processes draw their inspiration (Willmott, 1987; Meek, 1988; Mills, 1988). Here the origins of both the PH and Business ideologies are examined in terms of the social systems and their structures (Whittington, 1990) implicated at three interrelated contextual levels: the macro-environment, the sector and the organisational.

9.2.1 The Macro-Environment

The two ideologies have their origins in a plurality of overlapping social systems (Whittington, 1990, 1992): specifically, the intersection of community, political and economic systems which have been pivotal in the historical developments of the industry.

9.2.1.1 the public health ideological roots

The PH ideology is derived out of the confluence of the communal, economic and political social systems. Here the communal context has been a driver for developments within the industry with the calls for cleaner rivers and drinking water and accessibility of water services to all houses. In this way the dominant structures of environmentalism and health have been evoked with concerns for the aquatic environment and the link between pollution and disease (see 4.2-4.3). This last concern was supported by the health professionals of the nineteenth century who could command the resources of expertise and legitimacy from their professional structure. These too would find support in the literary works of Charles

Kingsley and Dickens who inspired the consciences of their readers (Hall, 1989). Industry in voicing concerns about water resources, could evoke the capitalist rules of profit maximisation. These concerns also indicated an increasingly sophisticated society, where both community and industry were voicing growing expectations about the quality of life. They were instrumental in motivating political action at both the state and local levels.

From within the political system action took the form of Royal Commissions and Acts of Parliament which gave powers of legitimate coercion to local authorities over water services (see Appendix 4.1). The ultimate control over resources to the sector would take the form of the Ministry of Housing and Local Government, later the DoE, which controlled local authority expenditure. As we have seen, local authorities subscribe to public sector rules of shaping objectives and policies to political goals (see 6.2.4). By the same token they are also subject to changes in political leadership which influences new priorities. This would result in an uneven distribution between sewage and water services which reflected their political importance. Moreover, the competing claims on the government purse meant that the relatively low priority afforded the industry could be explained by balancing funds for the greater good of the nation. In this way, political indifference to a national water policy for the first half of the century represented both a government denial of community problems and a deliberate policy of not employing state and hence, local authority resources of legitimate coercion. For government had exerted little influence on the passage or implementation of local acts for water management (see 4.3).

The growth in the public sector after 1945 reflected the political rules of the post war Labour government. Based on a package of economic and social reforms, these rules emphasised nationalisation, economic and physical planning and welfare. The MHLG chose to implement this logic when it instigated an aggressive campaign in

1956 to accelerate the regionalisation of water supply undertakings, but not in the case of sewage services which remained an LA function and subject to the economic constraints imposed by central government. This emphasis on the public sector with the increasing amalgamation of water supply would ensure that while water supply gained in importance, sewage would remain parochial and a second rate local authority service. These different outcomes for the two sides of the industry would in a large measure reflect the rules of keeping all constituents happy at both state and local level in the deployment of scarce economic resources (see 4.5).

The water industry after 1945 must be seen in the context of a political pendulum in the UK, whereby selective intervention by government in industry varied between periods of social market (1970-72) under the Conservatives and state intervention (1974-76) under Labour. The government policies up until 1979 were informed by a context of eroding UK industrial performance, continuous economic difficulties, Conservative and Labour governments and a 'trinity' of state, employers and labour market interests. During this time a significant role was seen for nationalisation and mixed entrepreneurship to rescue declining industries and stimulate emerging ones. What is noticeable about the post-war period, is the lack of a coherent industrial policy by governments of either persuasion with policy largely decided on political grounds. Lack of political will to create a coherent national water policy would deprive the industry of the causal powers necessary to effect change to become more efficient. Instead power resided at local authority level and with small scale fragmented Boards and Works (see 6.2.1).

9.2.1.2 the business ideological roots

The 1980s witnessed a clear break with political tradition in the UK as the Conservative government masterminded a package of monetarist reforms designed to diminish state intervention in industry but centralise state control away from local government and the public sector generally. This occurred alongside a growing

social awareness of green issues and concern for the social responsibility of business.

The economic intellectual system at the root of the business ideology is the monetarist economic philosophy adopted by the Conservatives (see 4.8.1).This economic stance was given legitimacy by respected academic economists and promoted by Whitehall thinktanks such as the Centre for Policy Studies (see 6.5.1). The rules of letting the market decide underpinned the accelerating privatisation programme of the Tories throughout the 1980s. The strong free-market ideological commitment advocated an arms length relationship with the economy and government intervention in business as inherently undesirable. Specific industry policies were minimised and operated through economic and fiscal controls. These included curbing public and private monopolies to stimulate the market, tax cuts and the reduction of regulation upon business.

During the same period the social segment in the UK and other industrial countries witnessed a rising concern with environmental matters (see 5.10.5). The implication of industry in environmental destruction was reinforced by such incidents as the Valdez oil spill. This was allied further to the growing concern by society for the social responsibility of business. The creation of regulatory bodies to oversee the privatised utilities was a means whereby the government could both compensate for a monopoly market and ensure standards of service to customers.

Thus with privatisation of the water industry the falling away of government financial constraints was replaced by an increase in regulation (see 4.11.2-4.11.8). However, the legitimate coercion exercised by the regulators and the EC has provided the industry with the ammunition to increase investment and hence prices. The environmental and economic regulators have contradictory rules, for the former to spend more and the latter to hold down prices which allows the industry to opt

out and place the responsibility for decision making with government. This has resulted in quadripartite talks where the environmental regulator has been the loser to the political expediency of holding prices down. Another contradiction lies in the market forces rationale for privatisation of monopoly utilities companies. The quasi-competitiveness of comparative competition introduced by OFWAT represents a closed economic system where measures of efficiency rather than entrepreneurialism are dominant. Hence innovation within the sector revolves around the bargaining abilities of management in negotiating their K factors rather than competitor influenced cost and quality settings. The comparative measures relate to customer service issues (availability of water, reliability of service and response to customers) which provide an artificial market mechanism where supplier switching is impossible for domestic customers and no real threat of entry is likely.

9.2.2 The Sector Context

The influence of the sector upon organisational practices and culture has been discussed by various authors (Huff, 1982; McGee, Thomas and Porac, 1985; Reynolds, 1986; Whipp & Clark, 1986; Child & Smith, 1987; Spender, 1989; Porac and Thomas, 1990). The ideological roots of the water industry lie in both the character of the social systems identified in the macro-environment and sector-level variables identified in chapter 6 as industry characteristics, values, beliefs and management styles (Gagliardi, 1986). The following section attempts to draw linkages between trends in both the wider environment and sector level, and ideological development. The four sector variables - industry characteristics, values, beliefs and management styles - will be assessed for their dominant social systems and the rules and resources which inform behaviour in each category.

9.2.2.1 the public health ideology

The evolution of the Public Health ideology had been an incremental one over a century of industry developments and change. It has been shown that the political

system provided little legitimate power and it resided at the local level. Thus the industry characteristics derived their legitimacy from the communal social system, being embedded in the public sector. Services provided by utilities are traditionally regarded as community orientated, first in the sense that, as with water, the provision of wholesome water and adequate sanitary arrangements are in the best interests of the whole community by reducing disease and promoting good health. Secondly, the purchase of such services is not possible by individual householders, they must of necessity involve a shared infrastructure. Thus the communal social system is brought into play. The basic resources were the organisational histories from which information could be drawn about the infrastructure and its environs ie 'knowledge of the patch'. The basic rules were an adherence to local norms and traditions of practice based on historical knowledge. These rules ensured a heterogeneity prevailed within the industry regarding work practices (see 6.2.1). The diversity within work practices was further maintained by the three-way functional split within the industry with separate organisations for each part of the water cycle.

The industry values (see 6.2.2) (Gordon, 1991) draw upon the professional and communal social systems for inspiration. For instance, the community was evoked in the core values of public service, guardians of public health and recreation which could be claimed by all segments of the industry. Similarly, the valuing of quantifiable inputs into operational practices drew on communal allegiance to union membership, legitimised by the rules of the water industry productivity scheme. The professional social system was drawn upon by all three industry groupings (water, sewage and pollution control) in their core values of professional allegiance and the emphasis on qualifications which provided the resources of expertise and legitimacy and the rules of professional codes of conduct. Further, these rules would demand an allegiance over and above the members' organisations. Another legitimising factor was the technical expertise established over long periods in the

larger organisations which had international reputations. Also, developments within the industry were very much shaped by the industry bodies, established since the end of the 19th century which pushed for a national water policy (see 4.3). The role of CAWC during this century was most noticeable in this respect and very much informed policy for the 1945 Water Act (see 4.4). Finally, the familial social system could be drawn upon as guiding the choice by workers to give life-long service over several generations (see 6.2.2).

The professional and communal social systems also provided the legitimising logics for industry beliefs. The belief in the industry as a public service with the concomitant dedication to community was reinforced by the emphasis on local knowledge and subsequent industry heterogeneity. The professional social system provided legitimacy for the belief in engineering solutions and fresh water being seen as both a necessity and a science (see 4.3). As the industry evolved, resources became technological excellence which would underlie much policy and action with an emphasis on past achievements. This was to some extent undermined in sewage by the status accorded to their works engineers by local authorities. This, together with the fragmentation of this sub-sector and lack of public funds, contributed to the poor state of sewage facilities in 1973.

The management style of the sector owed much to its public sector domain (see 6.2.4) with the emphasis on hierarchy, error avoidance, service regardless of cost, command management and employees as agents of operational practice. These actions derived their legitimacy from both the intellectual and political social systems. Financial resources were provided by the municipal authority which in turn was subject to the political expediencies of central government in the form of the MHLG, later the DoE. It was the nature of the funding arrangements and the often perceived shortfalls which led to a management style of effectiveness regardless of cost with short-term horizons. The political rules informing

managerial practice centre on the achievement of political goals and the support of political objectives and policies. These goals are of political necessity vague, complex and often conflicting with frequent changes. By contrast, the water industry goals of big engineering projects require long term planning, which conflicts with political funding arrangements. As a consequence strategy and planning were historically poor; engineering projects were often split into small pieces to accommodate the funding arrangements and capital was spent in the year it was allocated (see 5.7.1; 5.8.1; 8.6.4).

9.2.2.2 the business ideology

The Business ideology has its roots in intellectual, political and economic systems. This particular variant of the capitalist ethos draws its inspiration as much from the new right politics of the 1980s as in distancing itself from what it set out to replace. In this sense it has developed much of its logics of action since privatisation from an analysis of the shortcomings of the public sector, in contrast to current commercial realities (see 4.11). The various writings by industry leaders on this topic (Carney, 1990, 1991a,b&c; Bellak, 1991; Brooker, 1991; Hood, N. 1991; Jones, 1990, 1991; Skellett, 1991) provide the historical continuity (Meyer, 1982) which justifies the present ideology of the industry. The current commercial realities owe much of their rules and resources to the evolving political and economic systems, while managerial realities draw their inspiration from the current intellectual system to which contemporary notions of management subscribe.

The industry characteristics (see 6.8.1) are derived from the capitalist economic social system, very much shaped by their recent history of the private sector, where a turbulent environment, many stakeholders and radical change have reinforced the necessity for coherence within the companies and heterogeneity between them. The rules of the private sector are profit, compliance with regulations and market positioning. The resources are the capital markets which now make finance

available for investment. Hence the industry has shifted from a local to regional and global perspectives as to where it does business. The large regional entities have attained a status as economic entities and also attempted to position themselves as environmental and service businesses. The industry still faces public challenges from a perceived contradiction in these three activities.

The industry values (see 6.8.2) of company ownership and competitiveness are also derived from the capitalist economic social system. The intellectual social system has contributed to notions of professional management and the twin goals of quality and efficiency, alongside an increased responsibility on the part of the workforce. In the private sector the water companies have gained the acceptance of their regionality which was so long deferred after the formation of the Authorities. As economic entities their status is indisputable to the personnel which now work within these organisations. New capitalist priorities now exert themselves as the utility companies seek markets abroad and new acquisitions at home. Recognition is now global as well as national and management are engaged on behalf of their companies, not their profession. The element of competitiveness introduced by OFWAT has also contributed to a sense of organisational identity and purpose for managerial realities, as the water companies seek to distinguish themselves from each other. The water companies must also respond to the rules imposed by investors and city analysts, the share price acting to affect managerial decisions related to profitability. Similarly, profitability is linked to the acquisition of capital and hence the ability to finance the expenditure required by the regulators. Thus has privatisation introduced a heterogeneity into the industry which has fostered separate company identities. Contemporary management theory imported by new outside managers and consultants has played a large role in shaping managerial values. Indeed, the whole notion of management has been extended and reshaped, such that economy and efficiency have equal priorities alongside engineering excellence. It is here that the economic and intellectual social structures overlap

with economic rules around profitability and quality being enforced by the managerial resources imported from outside the industry.

Similarly, the industry beliefs (see 6.8.3) are derived from economic and intellectual social systems. The whole notion of government as a bad owner is implicit in capitalist logics and the recent history of the water industry in public ownership is held up to reinforce this view (see 4.11). The positioning of the new WSCs as service and environmental companies display a marrying of the economic and managerial social systems in defining a market niche to justify profits. In this way, a total quality ethic may be used to assure OFWAT of concern for the customer and the necessity for price increases. Managing risk combines notions of cost effectiveness with environmental concern in order to achieve acceptable quality at lowest cost. Thus the regulators' requirements are subject to *management solutions* in the same way as engineering projects. It is this last belief in management which underscores the whole logics of action within the industry and legitimises vision, mission statements and constant change.

The management style of the sector has its roots in a contemporary academic intellectual system which emphasises the learning organisation (Hedberg, 1981; Garratt, 1987; DeGeus, 1988), managers as facilitators (Bartlett & Ghoshal, 1995) within a role culture enabled by a flat structure (Coulson-Thomas & Coe, 1991) and employees as initiative seeking entrepreneurs. The resources which make this contemporary organisation possible are the information networks supplied by IT (Hedlund, 1994) and the human networks derived from a delayered organisation (Bartlett & Ghoshal, 1993). Capitalist logics inform the twin objectives or rules of profit and regulation, the success factors of measurable outputs and the economic and efficient use of resources.

9.2.3 The Organisational Context

At the level of the organisation one can discern the ideological influences from the macro and sector environments. But as the contrast of both ideologies will show, it is the managerial social identities and multiple organisational memberships which are pivotal in informing managerial action and ideas.

9.2.3.1 the PH organisation

Managers derived their social identities from their affiliation to professional bodies and long sector experience. For instance, the Association of Water Officers was formed in 1945 to promote the advancement of technical and administrative knowledge in the industry. Such memberships provided them with resources of expertise and legitimised their involvement in advising government on a policy for the water industry. Managers could sustain their authority by virtue of long experience in a locality under the old works and boards of the industry, thereby appealing to the sector rules of knowledge of the patch. This intimate knowledge of a locality was a particularly relevant resource during the post war years when public sector organisations grew and a public service ethos was paramount. The management also had a high degree of professionalism within their own specialisms and there was a great emphasis on qualifications with doctorates common among the scientists.

The three sub-sectors of the industry had their own structural intersections with the MHLG, the local authority and industry bodies. These organisations were crucial in determining resources and policy. Additionally, each sector had its own professional bodies informing practice and imparting legitimacy. It was the intersection of these organisations which made for the nature of the predecessor bodies of the new water authorities.

In sewage and river management, the community, legislative and political systems overlapped in a way which madfe it difficult to reconcile the demands of increasing population and industrial waste with national expenditure. The community dedication would always be at odds with the lack of LA funding due to the low priority afforded to sewage services. In this way the notion of a service was strictly limited to the patch with little concern for neighbouring communities (see 5.6.1). Administrative boundaries bore no relationship to the river catchments occupied. For River Boards their adversarial powers could be weakened by LA board membership and weaknesses in legislation (see 5.6.1). These were to a certain extent righted by the 1963 Act which also introduced the WRB. However, the failure of the WRB (see 5.6.3) as a national agency for the coordination of water resources, and pollution control legislation weaknesses, did not improve the capacity and performance of sewage works in many LA areas. Consequently Sewage Authorities and River Boards and Authorities had a history of conflict.

The water supply side consisted similarly of overlapping community, legislative and political systems which could not address the perceived water resources issue, nor the problems of inefficiency in supply and management (see 4.6.1). For instance, the Water Resources Act 1963 undermined responsibilities of water undertakers as spelled out in 1945 Act. The elected LA representatives were inefficient in managing what was increasingly seen as a commodity.

The dominant rules of the PH organisations derived from their local authority orientation and funding arrangements. These included providing the best service within budget, cost of little significance, the local authority boundary is never crossed, ie no joint schemes, no concern for the condition of the river downstream from the community which is served (see 5.6.1) and professional codes of conduct. Their resources were derived from their affiliation to their professions which

provided legitimacy for conduct; historical experience which legitimised practices and legislative authority which gave legal powers for pollution control.

As the new Water Authorities, these overlapping system boundaries became transferred into one organisation. The preservation of the predecessor bodies in divisional form ensured a continuation of these relationships with the internal regulation of sewage by scientific services, the predominance of LA membership on the board and DoE control, to be discussed in the next section.

9.2.3.2 the Business organisation

The Business ideology was most significantly imported into the case study organisations from outside the industry. At the Board level new Chairmen brought a background of private sector experience and expectations as did new members (see 4.8.5). The Board at the apex of the organisations could draw upon capitalist logics of management to inform their rationale. In both case studies chairmen drew their legitimacy from their experience in prestigious organisations (Royal Doulton and British Airways). Likewise, the Boards came to be populated with similar people who could draw on such experience to legitimise their roles. In the case studies, organisational stories of Chairman's experiences were common: for instance, Roy Watts' reputation for axing jobs at BA (see 8.4.5) and Bellak's concern with standards (see 7.4.5). In this way, learned cultural information was stored in sagas (Clark, 1972) and the grapevine (Davis, 1953). In terms of resources, both men had significant political contacts (Bellak had been a Conservative Party candidate) and could count ministers among their friends. Also, Watts' social status was enhanced by an OBE, Bellak's by the membership of the Institute for Economic Affairs. Key organisational actors for both organisations were the CEOs appointed to drive through privatisation (see 7.6.1, 8.6.1). Both came with extensive private sector experience (British Oxygen and Perkins Engine Group) as resources and were instrumental in importing capitalist and managerialist logics into the organisations.

Additionally, new management teams have replaced the old authority ones and brought with them new management resources.

At divisional level management were increasingly from the authority era having started careers in WAs. They had experienced the turmoils of the new WAs and were ready for change. As they were often appointed after new structural reorganisations they could more effectively draw upon the principles of IRBM which were for so long deferred under the old structures. More crucially, these people were appointed for their management skills as opposed to engineering or technical ones.

In the private sector the community, economic, political and legislative systems all intersect and overlap to define the water companies' new status. The key social systems for the companies are the economic and legislative as they intersect in contradictory ways. The economic logic to make a profit is constrained by regulation to maintain standards (see 4.11.2). There is also ongoing pressure from the community to hold down prices, criticism over directors pay and allowances and environmental concerns. The issue of pricing conflicts with that of standards and the water companies' response is to shift the burden of responsibility back on to government. This last move resulted in quadripartite talks with all parties and the subsequent modification of EC regulations. In this way the political social system is still much in evidence, particularly with public dissatisfaction with services. What is clear is that the water companies may now exploit the contradictions within the regulatory framework to both argue for increases in prices and abdicate from responsibility for costs by pointing to Brussels.

9.3 Ideological Preservation

The case studies have shown that despite radical sector changes the new organisations persisted in management processes which undermined reorganisation and the principle of IRBM upon which it was based. The relevant period here is from 1974 to 79 during the convergent period termed integration. In assessing the reasons for the failure of integration, the interest here is why the old ideology remained entrenched contrary to organisational well-being. The preservation of ideology will be discussed as a function of organisational formation, structure, leadership, work practices and social identities. Within each will be explored internal ambiguity and external contradictions giving rise to managerial agency or inaction.

9.3.1 organisational formation

Big regional WAs were the largest organisations ever seen in the industry and appeared suddenly. The time-scale for reorganisation once the Bill had passed was incredibly short for such a massive undertaking. Okun (1977) writes of the creation of these new organisations as a "challenge" particularly when, notwithstanding the scale of the operation, these organisations would affect the lives of every person in the country (see 4.6.5). It was precisely this last fact and the necessity for coinciding with local authority and health service reorganisations on the same date which dictated the speed of the reorganisation (see 4.6.2). There was no opportunity for organic growth which would have allowed organisational members time to adapt to increasing size and complexity.

Severn Trent and Thames had 9 and 8 months respectively in which to prepare for R-day: long enough to establish a variety of working divisions but too short to deal with the cultural and managerial changes required to establish large integrated organisations. Therefore, both authorities had little choice but to heed the Ogden report's recommendation that different water functions should be delegated to

divisions to the fullest possible extent (see 4.6.4). Ogden emphasised a multidivisional, multidisciplinary structure and a corporate approach to management. But nowhere was there mention of the cultural shifts and managerial processes required to form an integrated organisational entity. Indeed, the criticisms from inside the industry about the report were far more concerned with operational issues and regulation (see 4.6.4). Not surprisingly, such responses reflected the ongoing concerns of an industry which had experienced more failures than successes at the hand of government policy decisions, or non-decisions (see 4.12). However, it was a curious omission on the part of Ogden, considering the bitterness within the industry wrought by the 1956 regrouping of water supply (see 4.5).

Decentralisation was the hallmark then of the new authorities. Ogden reasoned that it would encourage staff involvement (see 4.6.4) although they had not bargained on divisional involvement at the expense of the region as a whole. Indeed, the reasoning of the chief executives was sound, given the enormity of the task and the time allotted. Thames had 200 and Severn Trent 242 bodies to incorporate into 9 and 28 divisions respectively. Both CEOs saw maximum delegation to operational units as essential. What these arrangements did not take into account was how to coordinate working relationships between divisions that would reflect the principles of IRBM. Multifunctionalism was a step closer in merging different parts of the industry for the common good of the river basin but there was no mechanism for coordination between units that would generate commitment to the region as a whole.

Another critical factor in these arrangements was the preservation of the largest inherited bodies by both organisations. There was no doubt that the smooth functioning of their services was required for April 1st, but left intact, they would find it irresistible to do anything but function as they had always done. Morrison's words (see 8.2.2) that to disturb these large organisations was at "your own peril"

subsequently revealed the opposite with the power struggle between divisions and the centre. The very strength of these organisations would also be the weaknesses of the new authorities (see 7.3.3; 8.3.3). Their resources of expertise and knowledge would remain divisionalised like their cultures while the regional authority acted only as an umbrella for the disparate divisions. The divisions maintaining separate work practices would prove the biggest stumbling block to rationalisation and fly in the face of efficiency and economy assumed by Ogden.

Ogden had hoped that members of WAs would adopt a corporate approach and not pursue local constituency or special interests (see 4.6.4). However, this is exactly what happened with the large LA dominated Boards. The water industry was not seen as a career posting for an ambitious politician (see 8.3.1) and so attracted low key individuals with little management initiative or those with previous experience of the industry and hence a traditional outlook. The very large member grouping (43 for STWA and 52 for TWA) from numerous county councils and local authorities would preclude any single minded drive to fashion a new organisation. Most members would find it difficult not to represent local constituency interests, particularly if this had been their role previously. After all, political accountability was an issue at stake at the time (see 4.6.4) and local politicians were wary of these large impersonal monopolistic organisations.

The emphasis on decentralisation, the preservation of the largest inherited bodies and single issue local political membership, made the role of head office management ambiguous. With organisational leaders hedged in from above and below, the potential for a leadership vacuum was a foregone conclusion. The largest inherited bodies, in particular, would be acting entirely as they had always done by going over the Directors' heads to the members for policy decisions (see 7.3.3). Indeed, decentralisation virtually mandated that they did so. In this way, management structure and processes would be at the core of the reorganisation

problems, discussed in the following sections. The multidisciplinary approach recommended by Ogden was not in evidence at HQ. Directorates were divided clearly along functional lines. As they were so often headed by *the* expert in the industry in the two authorities, they would all the more reflect the continuity with the established ideology. Such an arrangement ensured the failure of corporatism, and nowhere was this more in evidence during 1973 than in Thames (see 8.2.1) which three day retreat set the pattern for future tensions between operations and the other directorates. It was precisely these sort of managerial processual problems which had been overlooked or ignored by Ogden. Hender said as much in the *Surveyor* (1974b), backed by Severn Trent's first Chairman who described the corporate management team as "irrelevant" (see 4.7.1).

The reorganisation of the water industry had proposed the integration of the whole water cycle to be undertaken by organisations previously specialist in one part only. Organisations experiencing formerly adversarial relationships now found themselves operating together under the umbrella of a single organisation. However, the internal regulatory function contradicted the notion of integration by enhancing internal differences in the policing role of Scientific Services. Pollution control officers considered themselves apart from the organisation (see 7.3.7). These forces for separation were enhanced by the historical emphasis on professionalism above organisation.

The Ogden report had provided the organisational blueprint, its influential members had been from the water industry (including the first CEO of Severn Trent), as were the critics. The engineering orientation of the Public Health ideology could do no more. What had been created were large monopolistic organisations, having no clear organisational identity but with powerful and insular divisions. Management were in an ambiguous position, with parochial Boards and functional directorates, playing out traditional rivalries within one organisation, thereby undermining both

corporate management and IRBM. The earliest days of the case study organisations support Kimberly's (1975) findings that the aetiology of organisational configurations may in part be a function of environmental influences, in this case of a government committee and time.

9.3.2 structure

The Board in both authorities, being established along municipal lines set up a local authority committee structure. This type of Board at the apex of the authority structure ensured that the political context would remain the driving force of the authority (see 6.2.4). Even in Severn Trent where labour and industry members exerted a greater role, the LA members appeared to Okun (1977) to serve more as representatives of their authorities than in other WAs (see 7.2.2). In Thames this "vast collection of individuals" was seen to diffuse responsibility and lack coherence (see 8.3.1). The sheer numbers making up these Boards seemed to necessitate the formation of committees to give the members a role. This committee structure, with its policy role, blurred the demarcation of power and influence between the executive and the Board. Furthermore, the Boards became more interfering as they got into their stride. There were powerful lobby groups in addition to the LAs, like MAFF and the NFU, who could influence expenditure. The Board was also open to external influence, as in the famous instance where the Severn Trent executive were overruled in their choice of computer (see 7.3.5). This had been the work of ICL who wrote to every member urging them to buy British.

Internally, divisional managers, well versed in local authority decision making, worked the committees to retain power, as did the executive. The committee system then became a forum for pushing preferred policy. Indeed, assistant directors were seen to spend an inordinate amount of time writing papers for the Board, not all of which were fully understood (see 7.3.4; 8.3.1). Committees also enshrined the compartmentalisation of functions, by separating water quality, land drainage, etc.

In this way the Board recreated traditional ideological principles of local interest, community values, local knowledge and the public administration model of management.

The executive officer structure was perhaps the most problematic in terms of role and power. Both the Board and divisions were operating along familiar lines, albeit on a larger scale. The rules of management practice and process were governed by the political context of the PH ideology. The executive, however, were a new tier in the water industry, presiding over a collection of individual units and constrained in decision-making from above. This executive structure, organised as it was around traditional departmental boundaries, mitigated against multidisciplinary, integrated organisations and lacked the coherence necessary to drive them (see 8.3.2). The executive officers left dormant any possible alternative structural properties which could have been imported from other public sector agencies or the recently reorganised local authorities. There was also an ambiguity surrounding the role of assistant directors, which in Severn Trent resulted in separate management team meetings for directors and assistants (see 7.3.4). These two layers of management indicated overmanning as much as traditional empire building within departments. The absence of a clear role for the executive left them as coordinators in the centre (see 7.3.3) and prone to internal conflict. This was not helped by divisions gaining a head start in operational functioning (see 8.3.2). The vacuum at the centre around which departments conflicted did not provide any alternative to the public administration model of management.

By 1975 Severn Trent had eight and Thames nine divisions. The devolution of power to divisions was a huge resource and made their role crucial. In Thames for instance, they were built around existing services (see 8.3.3) and confirmed for divisional members their importance in service delivery. The reliance of the authorities upon their divisions, particularly the largest predecessor bodies,

perpetuated their local outlook and historical significance. It confirmed the necessity for local knowledge and beliefs in diversified practices and engineering solutions. The pioneering spirit evidenced from within Severn Trent (see 7.2.4) could only reinforce beliefs around community dedication. The very notion of integration was a threat to the identity of the largest divisions, manifesting in resistance to regional policy (see 7.3.3). They naturally retained their old cultures and historical knowledge (Douglas, 1986; Kantow, 1987), continuing an isolationist and introverted tradition. This last would also encourage rivalry between divisions (see 8.3.3), particularly in relation to the capital programme and defer standardisation for many years. In this way ideology was stored within the structural form of the case study organisations and became an obstacle to change (Starbuck and Hedberg, 1977).

9.3.3 leadership

The MHLG plan was to create a self-financing water industry with management having a higher priority and status, a part of the then fashionable managerial revolution, to bring about a single comprehensive management plan for every river basin and the commercialisation of water. This initiative would require that the WAs had to balance the requirements of the river in the best overall interest, in the knowledge that all were linked (see 4.6.3). The concept of corporate management by Ogden was to ensure this transformation into IRBM (see 4.6.4).

The leadership of both authorities derived their managerial identities from their previous experience in the industry and local politics. William Dugdale had been head of Warwick County Council and Peter Black a member of the GLC. Likewise in the CEOs, Morrison was from the GLC and Nixon from a River Authority, Beddoes was a civil servant involved in reorganisation of the water industry and Reeve a distinguished engineer. However, their experiences did not prepare them for the managerial requirements of the new integrated authorities. For instance,

Thames' Director of Operations was a good engineer but not a manager and as a consequence headed up the weakest directorate with little impact on the divisions (see 8.3.2). Reeve of STWA had professional and personal resources to command but chose instead to raise the status of divisional managers by giving them a direct reporting line to himself as CEO (see 7.3.2). Beddoe was perhaps the most detached from the industry ethos and approached his leadership of STWA as an administrator. In this way he was able to establish eight multifunctional divisions and amid much conflict, abolish the directorate of resource planning (see 7.3.2). With Beddoe's retirement there was a shift in the leadership from administrator to engineering with the appointment of Don Reeve (see 7.3.2) and his belief in decentralisation.

The executive response to their ambiguous management roles and conflict took two main forms. In STWA management chose to selectively engage in other overlapping systems by attending endless meetings and committees with other industry bodies (see 7.3.4). There were also the internal conflicts between directors and assistant directors. In Thames the conflict was decidedly acrimonious, occurring between directorates and especially between personalities (see 8.3.2). Neither authority could stem the conflict because they believed in decentralisation while establishing a large central executive. Furthermore, the central directorates compartmentalised functions without a mechanism for coherence between them. The executive did not deem it necessary to explore alternative structural properties of management because they still held the values of professionalism, technical excellence and experience paramount. These values were further perpetuated by the authority structures which decentralised power and authority.

The core of industry beliefs were held within divisions and emphasised by the controlling presence of the Board. Some divisional Managers maintained the status quo by employing personal resources of strength. They found it difficult to respond

to change (see 7.3.3) and purposely left dormant the structural properties necessary for integration: thus the refusal to use regional systems and the maintaining of divisional cultures, the most blatant example being the Severn Trent division which refused access to the HQ appraisal team (see 7.3.3). In this way the management acted in the interests of their division at the expense of the region as a whole. This was as much a reflection of beliefs in traditional practices as a resistance to change itself. The executive of the two water authorities were thus left to coordinate policy and with a fair degree of tension regarding even this role, as recognised by the ST interviewee who remarked on the dividing line between coordination and interference being a "fine line" (see 7.3.3). The more the executive showed interest in divisions the greater their resistance. They had after all, perhaps the greatest single resource, that of information. Prior to the introduction of IT and computerisation the divisions could utilise their local knowledge and experience in their bid for power (see 8.7.1).

The Board provided the familiar internal political context while the external political context was as strained as ever, with financial restrictions serving to exacerbate conflict at the centre and between the centre and divisions (see 8.3.2; 8.3.5). As management spent more time fighting than managing, one response would be empire building in the tradition of local government as a buffer for conflict (see 8.3.2). Therefore long lines of management evolved. Similarly, general objectives remained the response to the internal political context and financial restrictions. These restrictions not only influenced the speed of projects but also the notion of "best overall interest" underpinning IRBM. This usually meant a scaling down of standards while parsimony of resources was precluded by a funding arrangement which necessitated expenditure of capital in the financial year it was received. The long hierarchies meant a rule culture prevailed at divisional and executive levels. Of particular importance in this administrative model of management is the effect of the financial arrangements in emphasising arbitration and rule interpretation. The

capital programme was mostly at the centre of conflict: in its allocation between divisions, the coding scheme and rules of prioritisation, all creating ongoing tensions and game playing within and between hierarchical levels (see 7.3.3; 8.3.5). Corporate management was thereby stifled by government control, from the setting of prices to the execution of long term projects.

Thus there were two essential tensions or ambiguities for management. First there was always the conflict between industry values and beliefs and Treasury expenditure policy, which always saw water as a lower priority. Divisional rivalry for resources was not conducive to integration and perpetuated their local outlook. Second, a policy of decentralisation was inimical to the empire building at the centre. There would always be a tension between the traditional role of divisions in delivering a service and the desire at the centre to "manage" this process. These twin conflicts, the first well known in the industry, the second arising out of the new regional bodies undermined the possibility of managing these organisations.

9.3.4 work practices

The PH ideology was also preserved by the routinisation of work practices within the authorities. Divisions maintained the procedures, specifications, suppliers and systems from the previous era (see 8.3.3) which embodied their organisational memories (March and Simon, 1958). In this way the workforce continued in much the same way as they had prior to 1973. In particular, those divisions left intact after reorganisation continued to exert the same cultural influences upon their staff. The financial constraints also preserved work practices, as previously stated, when large engineering schemes were approached in small scale stages to hedge against the sudden withdrawal of government funds (see 8.6.4). The strength of the unions ensured continuity with the Public Health ideology by negotiating for rewards via the industry productivity scheme which was based on quantifiable inputs (see 6.1.2). The prevalent rule cultures with long hierarchies and limited delegation

would make any other basis for reward impracticable. In this way it is possible to envisage how, at even the lowest level of the new organisations, daily activities of the most mundane nature could reinforce the prevailing ideology.

9.3.5 social identities

The constitution of the water authorities left them in an ambiguous position. They were a hybrid organisation being part LA and part nationalised industry (see 4.7.10). This created tension between the call of LA policies upon WA resources and Treasury policy to curb capital expenditure. The result was that the new regional organisations could not flex their muscle as befitted all-purpose authorities. Projects often had to be deferred in a current financial year so as not to over-commit resources in subsequent years. Thus the big challenges which were seen to be the raison d'etre of the new authorities could still only be tackled in a piecemeal fashion.

Significantly, the Water Act did not change the relationship between government and industry (see 4.7.2) although the WAs were supposed to have greater freedom of action than previously. Even so, the national agencies set up to oversee national policy direction could not override the controlling effect of the DoE: first in setting the capital ceiling for borrowing (see always a compromise between the WA's requirements and other national needs) and second in surveillance of the corporate plans. The authorities still could not convince the DoE of the seriousness of capital expenditure cutbacks as the results were so incremental. Also, the NWC, with no statutory powers apart from training, had to compete with a number of other agencies in offering advice on a national policy. This dilution of its role at the centre would weaken its efforts to provide a national identity and sense of purpose for the water industry (see 4.7.2). In the absence of a new identity the old one naturally contrived to assert itself.

The control of finance by government linked the fortunes of the industry with that of the economy as a whole. Thus inflation and inherited loans from predecessor organisations increased charges at a most inopportune time when trying to gain public favour (see 4.7.3). Furthermore, the charges, having until 1974 been disguised in local authority rates made the WAs immediately unpopular with the general public. Combined economic and industry inheritance problems resulted in unprecedented price increases in the two authorities. This highlighted the anomalous situation of the authorities (Thorpe 1975, see 8.7.4) with the belief by consumers that the WAs were not accountable for their level of spending. The resulting furore for Thames caused the organisation to be even more inward looking and was considered a time of great trauma. This was compounded by the capital restrictions which curtailed the investment plans of divisions and led to a feeling of hopelessness (see 8.3.5). In STWA it led to political problems with Welsh Nationalists that caused an enquiry into the industry itself (see 4.8.4). For an industry which had largely been taken for granted this new negative public exposure had no precedents. Nor was there any coherent social identity to call upon to counter the accusations of lack of accountability.

The lack of a revived industry identity to match the new reorganisation was accentuated by the continuing lack of capital investment. By 1975 it was already clear from the National Water Conference that crippling interest rates from borrowing and the effects of underinvestment were undermining the potential for economies of scale from reorganisation (see 4.7.5). It was therefore hardly surprising that a degree of inertia was experienced at executive levels in Thames (see 8.3.2). After all, there was no comprehensive national policy or industry identity to drive organisational policy and no capital to execute it. The response of authorities like Thames and Severn Trent was to carry on in the best way they knew how, in the old traditions of the water industry.

An additional complexity for these regional bodies was their self-regulatory status. Not only did this create conflict internally for both organisations, but their statutory responsibilities were not as clear cut as they had been with the River Authorities. A Water Authority could not take action against itself and even-handedness was in question. Additionally, self-regulation was seen to be an advantage to the Treasury who didn't want to see costs increasing (see 7.3.7). The collusion by government in compromising standards, particularly the delay in implementing part II of COPA (see 4.7.7), could only create cynicism amongst those professionals who believed it their role to protect the river. This contradictory role created its own tensions between directorates (see 8.3.6) and within divisions (see 7.3.7).

9.3.6 conclusion on ideological preservation

The inertia of the integration period illustrates the importance of organisational history in its future development and that organisations can only be understood in light of their early phases and subsequent evolution (Stinchcombe, 1965; Kimberly, 1979; Lawrence, 1984; Zald, 1987). Despite the revolutionary character of IRBM it could not realise its full potential within the regional bodies without a corresponding change in management ideology. The timescale for formation necessitated a decentralisation policy and structure which made the locus of power ambiguous. This illustrates the importance of organisational form in the preservation of ideology and power. The lack of coherence between and within the hierarchy was not helped by the large member grouping which preserved a political context long familiar under municipal ownership. These new organisations lacked new identities from which management could draw alternative rules and resources to take action. Also the leadership lacked experience of corporate management, let alone the skills required for cultural change. The social identity of the authorities was poor and bedeviled by a contradictory status. The response of management may be seen very much in the fight-flight mode - turning inwards into political conflict, or fleeing to national industry committees. This supports Selznick's (1957) findings that early

political and social processes largely determine organisational strategy and patterns of subsequent activities. The real problem was that the internal and external contexts in replicating the past, appeared to provide no alternative social structures from which managers could draw for inspiration.

From a Realist perspective, the principles of IRBM lay dormant during the integration period, being overshadowed by opposing mechanisms maintaining insularity and separation of divisions (Bhaskar, 1978). This supports the work on ideological resistance to organisational change (Jonsson and Lundin, 1977; Brunsson, 1982; Pettigrew, 1986; Starbuck, Greve and Hedberg, 1988) for fear of dismembering organisational values, assumptions and paradigms. The founding ideology in this study was as important as a founding strategy (Boeker, 1989) in limiting or encouraging organisational change. In this way, ideologies may be seen to fulfil the function of decisions and in so doing simplify choice and legitimise action (Brunsson, 1982). If there was doubt about which course to take in the new authorities, management needed only to look at tried and tested solutions, as they did when deciding to preserve the inherited predecessor organisations.

9.4 Ideological Change

The ideological change evidenced after the privatisation of the industry took place largely over 10 years from 1979 to 1989. This intervening period between the two ideological systems occurred during the nationalisation, commercialisation and privatisation phases, where the organisational ideologies are conceptualised as a hybrid form. The current section discusses the suppression of the prevailing PH ideology and the emergence of the Business ideology in the context of the wider environment and organisational level developments. It is evident from the case studies that the pace of ideological change accelerated markedly for Thames from 1985, with their privatisation campaign. This changed their relationship with the

external environment and lent impetus to significant internal change. As in the preceding section, ideological change will be examined as a function of the social identities, structure, management and work practices of the regional authorities (Brunsson, 1982). Additionally key organisational members will be considered and their role in the promotion and suppression of ideology. Important in this are the enabling rules and resources, or contradictions between them which inspired agency.

9.4.1 social identities

Although Richardson et al (1992) argue that the seeds for radical change in the water industry were sown in 1973, the notion of water as an 'economic good' did not begin to bear fruit until the nationalisation period (see 4.9.6). There may be discerned a distinct shift from 1979 towards a market approach in these organisations (see 4.8.1-2), with at the same time a tightening of central government control, culminating in nationalisation (see 4.8.5). Now the authorities were truly state owned although their remit was still regional. The financial restructuring devices to reduce costs had the effect of increasing water bills (see 4.8.2) and delaying capital works projects (see 4.8.3). Thus external perceptions of the water industry did not improve. The removal of local authority membership also lost the authorities any support they might have had against government control (Kinnersley, 1989). The 1983 Water Act pushed the authorities towards an ethos stressing commercialism. By excluding local authorities, economic considerations became more important than technical ones and an enduring industry characteristic was swept aside. This supports the findings of Shortell, Morrison and Friedman (1990) where industry level changes were tightly interwoven with organisational change and the aetiology of organisational change may be found in external political and ideological influences.

Internally, nationalisation was perceived by management as an increase in status (see 7.4.5). New Chairmen were appointed from the private sector with the brief to run the authorities like businesses and be commercial (see 4.9). However, this brief was contradicted by the effect of the financial controls which acted to force up rates to customers at prices faster than inflation (see 4.9). Also, levels of investment in the industry were widely perceived as too low (see 4.9.1) and increased the complaints about lack of accountability. Perhaps the only cost cutting measure consistent with commercial business practice was the manpower reductions, significant in both authorities and the subject of much distress. The most pronounced effect of the new financial regime was a decline in the infrastructure and the quality of effluents and rivers (see 4.9.4; 5.10.1; 7.5.4; 8.5.5). This not only compounded the negative feelings in some quarters towards self-regulation and the lack of accountability, but also contradicted the capitalist logics of the authorities as businesses. Such contradictions were further reinforced by the notions of capital and revenue derived from Treasury funding arrangements. Here the authorities were required to borrow for maintenance and depreciation because charges were being used to pay back government debt (see 7.5.2).

9.4.2 structure

A key characteristic of the emerging Business ideology was the propensity for structural change within the organisations which is still evident in the private sector (see 8.7.5). Throughout the 1980s both organisations increasingly centralised their services, initially as efficiency measures and later to promote new management styles as well. It required a number of major reorganisations on the part of both organisations to make significant inroads into the dominant ideology.

The impetus to rationalisation in Severn Trent was the MMC report which had been critical of decentralisation (see 7.4.3). This led to an initial restructuring with the disbanding of Scientific Services in 1982, officially to rationalise resources but also

with political motives (see 7.4.4). Despite the questionable nature of this regulatory arrangement, it was a first step towards the integration of functions at headquarters. At this time too, the Authority was shedding manpower in line with the required efficiency measures (see 7.4.1) as was Thames, who reduced their divisions from nine to six along geographical lines (see 8.4.2). Significantly for Thames, the MWB was dismantled for the first time in this restructuring and, despite the culture surviving for awhile, they lost an historic institution. In this way, both organisations lost supporters of the PH ideology. Thames also integrated functions with the merger of the operations and planning directorates. This served to neutralise much executive conflict and resolved issues over big projects (see 8.4.2).

After the 1983 Act the commercialisation ethos gathered momentum within both organisations. In Severn Trent the eight divisions were amalgamated into four which became support for smaller operating districts (see 7.5.1). The Director of Operations used the Gas and Electricity Boards as his models for creating centres of excellence, thereby initiating one of the first moves from within that organisation to adopt alternative structural properties for action. In dismantling the eight divisions an important power base for the receptacle of the old ideology was lost. The districts, in reducing costs and being required to interface with the customer, were adopting the new rules of commercialisation.

In Thames similar efficiency measures resulted in reducing the divisions to four and significantly, each was given its own profit and loss account. The new divisions although more powerful in function were now controlled centrally by a support services unit. Thames also established a marketing organisation to explore wider commercial possibilities. This was combined with a wide ranging series of studies to examine measures of operational efficiency (see 8.4.5). The transference of HQ from London to Reading was a symbolic move as well as a cost saving one which indicated a new era to the top management. Watts' idea to privatise all the

authority's functions lay behind establishing a regulation and monitoring department. The Conservancies were both reestablished to oversee leisure and recreation on the rivers as growth businesses (see 8.5.3). This increasing centralisation of both authorities undermined the power bases of divisions. Their amalgamation into larger entities eroded beliefs around local knowledge while rationalisation made diversified practices untenable. Increasingly, the structures were being shaped around efficiency measures and enterprise possibilities as the Authorities adopted capitalist logics of action.

The centralisation moves were not without their problems. In Severn Trent there was the feeling that the four largest divisions could still "second guess" policy from HQ (see 7.5.1). The situation was similar in Thames and two major reorganisations following on from each other had meant a bewildering period for staff (see 8.5.3). Ultimately both organisations increasingly centralised their non-operational functions so that by privatisation the old divisional entities had disappeared (see 7.5.1; 8.6.1). They were replaced by more operationally focused districts responsive to customer needs. The headquarters now assumed full responsibility for planning, policy and finance, including all support functions. In this way both Authorities created the basis for new organisational identities from capitalist logics to lead them into privatisation.

9.4.3 management

The 1983 Act created an opportunity to initiate ideological change by removing the political context of management and introducing outsiders into the organisations. Both Bellak and Watts could utilise overlapping social identities to promote a new commercial ethos. Similarly, during the privatisation process new CEOs from outside the industry were crucial in driving the final transformations into private sector companies (see 9.2.3.2).

The influence of the LA Boards in preserving the old ethos is borne out by the unsuccessful attempt of Thames' Chairman Edwards to operate without them (see 8.4.1). Also the failure of the CEO at this time, to unify the management team and respond to problems, was indicative of his lack of any alternative management style to call upon. Additionally both men lacked the psychological resources to inspire change. In both Authorities in 1983 the new Chairmen made an immediate impact upon management and staff. Both were very much "hands on". Bellak asked questions about quality, customer service and the condition of underground assets (see 7.4.5). Watts "hit the place like a bomb" with a programme of change and massive redundancies (see 8.4.5). One of his first moves was to take 10% off operating costs resulting in the first management cuts (see 8.4.5): in this way hastening a rationalisation process which had begun during nationalisation (see 8.4.3), and supporting Pettigrew's (1986) contention that the first step in the change process should build on existing processes. It is significant that both CEOs withdrew from the new ideas. Don Reeve (STWA) increasingly became involved in his professional association and Hugh Fish (TWA) resigned. However, the degree of turbulence was far greater in Thames as they had many more changes of management with external directors proving to be failures and two CEOs to Severn Trent's one (see 8.5.1).

The new Chairs with backing from their Board now placed new demands upon management. The rules of a commercial enterprise required the executive to think in an entrepreneurial fashion (see 8.5.1) and to act on behalf of their organisations rather than profession. In return, the executive were supplied with resources of greater powers (see 7.4.5) and management style packages (see 8.5.1). In this way the rule cultures were demolished and a commercial basis for managerial legitimacy was replacing the technical and administrative ones. There was a clear demarcation of power and responsibility between the Board and executive with greater policy direction: thus the significance of the remark made by the Severn Trent interviewee

that "one could almost physically see the organisation now" (see 7.4.5) and of Thames "for the first time ever we had got direction" (see 8.5.1). A clarity of management action, in contrast to the non-action of the previous era, may be seen to foster the first dawnings of organisational identities: in this way, demonstrating the importance of shared frameworks in storing cultural information (Duncan and Weiss, 1979; Shrivastava and Schneider, 1984).

The transformation of the executive, then, was initiated by an increase in power and responsibility. Lines of reporting were extended in Thames, destroying the tall tree structure. The financial rules imported into the authorities also played a part, where in Severn Trent they necessitated executive coordination (see 7.5.2). In Thames a new Personnel Director aimed to build the capability of the management group so that they might be "the engine house of change" (see 8.5.1). In line with entrepreneurial developments management were required to develop growth businesses and improve accountability. Other private sector principles involved emphasis on planning and the customer (see 8.4.5) and the introduction, albeit cautiously, of the notion of profits (see 8.5.1). Private sector style rewards followed with Thames pulling out of national wage bargaining in 1987, allowing the introduction of performance related pay, more tailored to business needs and objectives (FT 5/12/87). These resources made available to management and personnel served to reinforce the emerging ideology (Sewell, 1992).

Within divisions a similar transformation was occurring. There was a distinct move from engineers and technical managers to heads with management skills (see 8.4.9). The favourable redundancy packages cleared out managers committed to the PH ideology. In their place younger men were promoted from within the organisation thus ensuring their commitment to the new ideology: thereby supporting Pettigrew and Whipp's (1991) findings that involving action by people at every level is a critical leadership task in managing organisational change. Here too, the financial

rules necessitated commercial practices. Each division now had to produce a corporate plan for three years. Performance aims made divisions aware of costs and they could now compete on this basis.

The commercial aspirations of both organisations were soon perceived to be thwarted by government financial controls. Both Bellak and Watts began to be concerned at financing arrangements which prevented the organisations from meeting their long-term strategies. Indeed, finance was perceived as a stumbling block to change (see 7.4.2) by preventing a "needs driven culture" from being established. Although the organisations were moving towards self financing they were not able to finance their capital programmes because they had to use the money to repay debt. In Severn Trent the executive began to question Treasury decisions (see 7.5.2). The final straw occurred in 1985 when the government forced the authorities to increase charges at short notice (see 4.9.7). This was described by Bellak as "incredibly clumsy and hamfisted" (The Independent 15/12/86). Watts went further and forced a debate on privatisation in the House. By claiming government were using WAs as tax collectors, Watts was able to exploit the contradictions between government attempts to commercialise the authorities and their financial controls. As the first of the authorities to move towards debt repayment, Watts could point to the success of the organisation's efficiency measures, while questioning government's motives. This initiative from one part of the industry reflected the values of new managers (Richardson et al, 1992) who had picked up the gauntlet of commercialisation laid down by government. Roy Watts thus demonstrates Whittington's (1992) greater sense of managerial agency in exploiting contradictions between the structural properties of the organisation and the rules governing resources. In proposing privatisation Watts was defying immediate system logics of a public service, intrinsic to water industry ideology and promoting the very capitalist logics so clumsily grafted on to the authorities by government.

With Thames' privatisation campaign, the pace and depth of ideological change accelerated considerably. In an organisation previously racked by bitter acrimony, the campaign had profound consequences for organisational members (see 8.5.4). It made significant inroads into the dominant ideology at Thames by transforming their negative social identity. The previously passive water authority was now challenging government and attracting positive public attention. The change in image was perceived as "remarkable" and captured the imagination of management. The stories told about Thames'' privatisation campaign contained within them elements of the new ideology (Clark, 1972): government a bad owner, Thames a champion of the consumer, private capital could expand the base of business. The various PR tactics used (see 8.5.4) were unknown in the water industry as the previously introverted organisation was now looking outward and championing its customers. These tactics were symbolic in compelling action and changing attitudes (Pettigrew, 1979). Although regarded with scepticism by the rest of the industry, as the privatisation debate gained momentum, Thames was seen to set the agenda with external politics. The very notion of privatising water struck at the heart of PH values. Where the rest of the industry saw Thames as "smashing the institution" (see 8.5.4), management could argue the case for commercialisation on the basis of their own achievements while at the same time, point to government as the stumbling block to the fulfilment of these aims. Thus government was a bad owner and privatisation would provide not only management opportunities but benefits to the customer and the economy (see 8.5.4). The campaign therefore acted as a symbolic crossing over to the new ideology and a means to encodify the problematic nature of public sector ownership in organisational memory (Dandridge, 1983; Wilkins, 1983).

The man behind the privatisation campaign behaved as a maverick, without deference to the rest of the industry because he saw it as a personal crusade. As an outsider to the industry Roy Watts was not concerned with the consequences of

dismembering ideological principles. He had been embittered from his previous experience with BA, was nearing retirement and wanting to reassert his capabilities. He was therefore cavalier about possible government retribution (see 8.5.4) and his lack of emotional attachment to the industry perhaps allowed him to take risks. Watts thus had tremendous psychological resources alongside his managerial ones. The same feelings underlay his determination to make the rivers private, so that when his ideas for the tideway were thwarted by Ridley, it was more of a personal disappointment than any ambitions which he held for Thames (see 8.5.5).

The managerial transformation within the authorities gathered apace during privatisation, in both organisations hastened by the arrival of new CEOs from the private sector. Despite the previous changes, both men discovered stark remnants of the administrative management style. For instance, Rod Paul found decision making cumbersome, being still bedeviled by intellectualism. There was also a resistance from the management team to explain the details of their decision making (see 7.6.1). An inability to delegate, loose team working and a preoccupation with getting things right, all called for new managerial instruments (see 7.6.2). Similarly, Mike Hoffman found the withholding of information being used as a means to retain power (see 8.6.4), together with a lack of delegation (see 8.6.1) and ineffectiveness in dealing with organisational problems (see 8.6.4). Thames initiated extensive management training programmes at all levels, project base roles and a major IT programme. Both CEOs saw it as vital that managers who would be taking these organisations into the private sector shared the cultural values of their organisations. So it was that more changes in personnel were required to establish appropriate management teams (see 8.6.1; 7.6.2).

Resources too were significant in increasing the pace of cultural change. The availability of capital resources and the sheer size of the capital works programme necessitated further centralisation of engineering. Both organisations could now

adopt the full range of business activities from investment appraisal and planning to levels of service targets and standards (see 7.6; 7.6.3; 8.6.1): the latter being crucial for a private company to remain within the law. Directors now had to manage within an appropriate level of risk, financial as well as quality, balanced against expenditure. In this way, resources were critical in sustaining the rules of the new structures into the private sector (Sewell, 1992).

9.4.4 work practices

The work practices of the water authorities followed many of the rules as laid down by the NPM trend of the 1980s (see 6.4.2-3). These included explicit standards and measures of performance, emphasis on outputs (performance indicators) and greater discipline and parsimony in resource (cutting costs, resisting union demands, limiting compliance costs to business and raising labour discipline). The notion of management increasingly permeated down to the lower levels of the organisations, such that operatives now had a managerial component to their work. They were required to feel ownership for their works performance, in Severn Trent managers were put on a bonus to achieve levels of compliance (see 7.6.4), in Thames teams of people were set to manage works (see 8.7.2) and compete on performance. The structural properties of contemporary academic management have been utilised to import empowerment, multiskilling and learning into the organisations. The very language of which serves to store and reproduce learned cultural information (Donellon, 1986) and support shared beliefs (Pettigrew, 1979; Pondy and Mitroff, 1979; Meyer, 1982; Pfeffer, 1981; Whipp et al, 1989). These structural properties acted to engage staff on a daily basis with the new ideology.

9.4.5 conclusion on ideological change

Although much of the impetus for organisational change came from the new financial rules, this could not have been so radical without the importation of capitalist ideas by managers from outside the industry. Crucial to those ideas was

the establishment of organisational identities by restructuring and the new management processes. The ideological change was rendered complete with the final transformation of identity into private sector organisations, also driven by new leaders with personal and professional resources. There is some doubt within both organisations of the wholesale acceptance of ideological change (see 7.7.2; 8.7.6) and a certain degree of anxiety around the threat of redundancies. However it is clear that above the middle tier, management must "read the creed" or leave. Increasingly, technology structure and processes made it difficult for even operatives not to work in prescribed ways. The privatised water companies are centralised in terms of policy and planning and decentralised in terms of responsibility and service delivery.

It has been borne out by section 3 that the duration of the commercialisation period for the authorities was considerably shorter than the reorientation which preceded it. In structuralist terms, the nationalisation phase installed the mechanisms (rules) for the commercialisation of the authorities. However, the removal of the local authority Boards, and the new financial controls, set in motion the basis for further change because of the inherent contradictions between the ethos and government imposed financial rules. In this way, the effects or resources of the nationalised structures did not reinforce their continued existence (Sewell, 1992). They became vulnerable to further change, hastened by the ideology of the political context.

9.5 Conclusion

In this chapter, organisational ideology has been defined in terms of intersecting structures at multi-contextual levels over time, to form a coherent set of beliefs, values and management styles which underpin organisational action. In this sense, ideology is the building block of structure, being comprised of the rules of organisational life. This relates to Dunbar, Dutton and Torbert's (1982) analogy

between ideology and paradigm, thereby assigning fundamental and pervasive attributes to this concept.

As social systems evolve so does the character of industry ideology. It has been shown how the water industry cultivated an ideology over 130 years, influenced by political and economic developments, and the emergence of professional bodies and associations. The structural properties evoked by these overlapping social systems were shown to influence the emergence of the PH ideology within organisational forms, dominant at reorganisation. In particular, the intersection with the public sector had been the most important factor in influencing the development of management styles. The subsequent development of the case study organisations over 20 years, indicates how the pattern and structure of organisations reflect the value systems of the dominant social structures (Burns, 1967). The fashion for corporate management in the 1970s was evident in the headquarters of the water authorities, while the NPM movement and monetarist principles shaped the changes in the 1980s leading to privatisation. In particular, the changes which occurred during nationalisation and commercialisation show the relationship between the dominant political ideology and the nature of management tasks and roles: thereby supporting the early literature on the relationship between social structures and organisations (Bendix, 1956; Crozier, 1964).

The inertia of the integration period demonstrates the powerful influence of founding ideologies in shaping subsequent organisational activities and the reinforcing effect of organisational form and work practices in perpetuating the structure. The crucial difference in the capacity for change between the two ideologies explored here suggests an important property of ideology. During integration the case study organisations maintained the same structural arrangements and working practices, unlike the commercialisation period which was characterised by ongoing incremental changes toward further efficiency and effectiveness. The

PH ideology was not conducive to adaption to environmental contingencies with its emphasis on locality, introversion and insularity. This was manifested by the overmanning and lack of rationalisation almost 10 years after reorganisation. In structurationist terms, its rules were not easily transposable to the new context envisaged by IRBM (Sewell, 1992). This lends support to Sewell's (1992) contention that structures endure due to the power and depth of their rules (schemas). In the same way that Sewell accounts for the durability of capitalism by the exceptional transposability of its rules governing the conversion of use value into exchange value, so too does the commercialisation of the case study organisations in their intersection with capitalist logics display similar properties. Commercial rules respected no functional boundaries and could be applied to all tasks at all levels of the organisations. For instance, once the notion of outputs superseded inputs as the criteria for performance, then how tasks were delegated and executed was open to a variety of interpretations and hence change. Similarly managerial allegiance to the organisation, rather than their profession, was less restrictive in accepting organisational change: particularly where change itself became an inherent property of the new ideology (see 6.7; 7.6.2). In this way, the rules adopted by the authorities were of a more transposable nature, supporting Brunsson's (1982) assertion that the most stable ideologies are those which are vague and widely acceptable, ie transposable to varying circumstances. In this way, sharper, more definite and particular ideologies are easier to question and eventually debunk in the face of a changing reality: as they were in the new political context of the industry after 1979.

The development pattern of the organisations supports Jonsson and Lundin's (1977) findings that organisations periodically jump from one predominant ideology to another and that radical changes have to be preceded by and initiated by ideological shifts (Pettigrew, 1986). This ideological shift began during nationalisation which lasted some four years until removal of the local authority Boards, followed by a

relatively short convergent period. However, this pattern of development suggests a reappraisal of organisational evolution described by the punctuated equilibrium model, where organisations pass through long convergent periods punctuated by short periods of discontinuous change. The present study shows organisations passing through longer periods of recreation than of convergence (Fig 9.1). For the case studies, this reflected the influence of the external political context over several years of public sector reforms. That the commercialisation period was curtailed by privatisation has been discussed in terms of the inherent vulnerability of the nationalised structure to change (see 9.4.5). The implications for the punctuated equilibrium model are, firstly, that it must take account of the possibility of long term external contingencies effecting extended change periods within organisations; and, secondly, that the duration of the convergent periods are dependent upon the stability of the organisational structure instigated by the previous change period. This suggests caution in assuming the normative patterns of development suggested by the punctuated equilibrium model: rather, that organisations may be subject to unpredictable variations in the length of equilibrium versus change periods, particularly in turbulent environments.

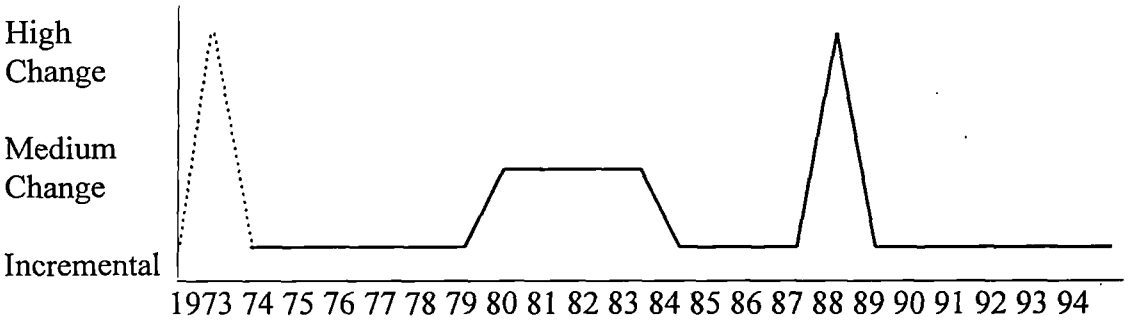


Fig 9.1 Convergence and Change in Severn Trent and Thames 1973 - 1994

Key: ..... failed change
——— change

The developments within the case study organisations demonstrate how an ideology may used by management to legitimise power, to create inertia, to avoid action, to instigate and also implement change. Action arises out of the contradiction within

and between structural properties and this contradiction was shown to grow with the changes in the political system after 1979. The water authority structure in retaining so many of the properties from systems in the industry and external contexts of previous decades, became increasingly ill-suited to their regional context, with their ambiguous social status. They therefore failed to deliver effective services at a price promised by IRBM and were vulnerable to change from the political system. The impact of leaders from outside the industry was crucial in introducing new structural properties which would underpin the new ideology. They derived their agency from personal resources such as experience and status which were further reinforced by the outcomes which they effected. In Watts' case the privatisation campaign was a powerful rite of passage propelling Thames into the private sector. But even more important was the ability to exploit the internal contradictions between the PH ideology and integration to introduce a commercial ethos: then to exploit the contradictions between the internal and external contexts posed by nationalisation of the industry, to effect second order change or recreation.

The case studies illustrate how organisational contradictions and ambiguities may be either accepted as forces for inertia or exploited as forces for change, as well as the importance of leaders with personal and psychological resources to inspire and revitalise. Foremost for the water authorities, ideological change required the establishment of a coherent organisational identity. The PH ideology and structure acted to fragment the authorities in the absence of organisational identities. The Business ideology demanded integration as an intrinsic rule of its logics. Organisational action is enabled by the resources of agents and properties made available by the context. That is, when properties are sufficiently transposable and where agents possess both personal powers and those conferred by the organisation, then it remains only for agents to possess the capacity to utilise their agential powers to effect the potential change inherent in the system.

10. PROCESSES OF STRATEGIC AGENDA BUILDING

10.1 Introduction

This chapter aims to derive insights into the processes of strategic agenda building by analysing the trajectory of the river water quality issue in the two case study organisations. Here we go back to the questions originally inspired by Dutton's (1988a) model (see 2.5.4). Specifically this study focuses on the question, what makes different organisations attend to different strategic issues? This has implications for the related question, how in the same organisation do different issues command different amounts of attentional resources? Finally, the third of Dutton's questions on the implications of the above for managing organisational change will be discussed in the following chapter.

The analytical framework follows that of the previous chapter in employing a structurationist account of strategic agenda building and, specifically, the means by which managerial agency is derived for the promotion and suppression of strategic issues. As an issue intrinsic to the functioning of the water authorities river quality was inherently viable for agenda inclusion. The amount of attention allocated to this issue at any one time would be indicated by internal reporting and the subsequent achievement of river water quality objectives in the long term. Thus while river quality may never actually leave the strategic agenda, its importance within the agenda structure varied over time with the amount of attentional resources, manifest in the results of survey data.

The chapter begins by conceptualising the trajectory of river water quality and how this is manifested at both the industry and organisational levels drawing links between them both. Conclusions are drawn as to the particular attributes of river water quality, thereby highlighting the nature of the issue content survey. Next a case is put forward for the basis upon which the two case study organisations may be compared in terms

of their performance in attending to river water quality. The following section conducts the comparative analysis and focuses on the way in which river water quality was kept alive in Severn Trent. A section is then devoted to the way in which river water quality was suppressed in both organisations. Finally, conclusions are drawn as to the implications for a model of strategic agenda building.

10.2 The Trajectory of River Water Quality

The pattern of interest and exposure which the river water quality issue has aroused in the case study organisations has been described as having a trajectory. This is conceptualised as actions taken in relation to river water quality placing it higher or lower on the strategic agenda. Important too is the temporal dimension which is implicit throughout this study. In this way, the issue is analysed in terms of process and context, the two being interdependent with each other. It is therefore important that the trajectory of this issue is seen in its historical and industry contexts as these relate to the organisational contexts. This refers to the propositions raised in chapter 3: What are the links between the outer context and organisational context, and what features of the outer context are responsible for increases or decreases in the degree of issue receptivity over time (see 3.4)? Evidence for the trajectory of river water quality is based on historical documents, interview analysis and the results of surveys conducted by the MHLG in 1958; the Department of the Environment in 1970a, 71a, 72, 1975, 1979; the National Water Council in 1980; the Department of the Environment in 1985 and the National Rivers Authority in 1990. The survey results reflect changes into higher or lower river classes (Appendix 5.5) during the period between surveys. However, the science of water quality is such that the causes of quality changes may not always be attributed to events or actions during the period surveyed (see following section) but must be seen in a longer time period. In this respect water quality is not an exact science and requires taking many subjective observations into account.

10.2.1 industry context

At the industry level the trajectory of river quality has its origins in the conflict between those who believe in absolute standards and those for whom standards are relative to some other measure, such as average annual quality or stream usage. Indeed, the definition of water quality described in chapter 5 highlights the fact that different users may adopt different criteria. The concern with river water quality is a communal issue which has conflicted throughout the history of the water industry with the political and economic social systems and through their influence, the technical and scientific evaluation of the issue.

From the emergence of the issue in the early 19th century, the conflict between the desire for pollution control and the protection of industry from heavy costs by local government was reflected in weak legislation which did little to improve quality until the latter half of the 20th century (see 5.3, 5.4, 5.6). This situation was repeated in the related issue of sewage effluent quality, where a lack of funding for municipal authorities and a lack of political will, contributed to the deterioration of this sub-sector (see 5.6). There was a further ambiguity surrounding the local authority remit and the welfare of the river basin as a whole (see 5.6). Even in the transition from single agency to river basin management, the institutions created from 1948 to oversee the rivers were failed by weak legislation and economic expediency (see 5.5; 5.6.2; 5.7; 5.8; 5.8.6).

In 1958 with the formation of the DoE quality classes (Appendix 5.3), it had been the intention to bring all streams to a class 1 state (see 5.7.4). Over the years the economic consequences of this aim became evident, so that by the late 1970s the goals of most water authorities were the elimination of class 4 (grossly polluted) rivers and an increase in class 1 and 2 rivers. Thus over time, the scope of actions in relation to river quality was reinterpreted in line with economic expediency. Reorganisation of the water industry served to combine conflicting interests around river quality within

the same organisation (see 9.3.1). The internal tension thus created, not only contradicted the traditional "policing" role of the regulators but also the process of integration itself. During the life of the water authorities the economic system was prominent in driving developments, including the deferment of COPA 2 (see 5.8) and the technical measures instigated to establish a common quantitative philosophy. In this, the collusion of the political system with the water authorities was instrumental in weakening their self-regulating ability (see 5.8.7).

That the water authorities had a choice in addressing river quality has been defended by Kinnersley (1988), who argues that their judgements were far from rigorous (see 5.9). Despite the constraints of the financial regime, Kinnersley points to the lack of alternative sources of funding explored by the WAs, such as metering, particularly its overseas experience, as well as the reticence in attending to improving charges for trade effluent disposal to sewers, or promoting in Britain the concept of charging for discharges direct to rivers (118-9). Thus the authorities chose to maintain their dependence on local-authority type levies and constraining service-related charges. Moreover, they ignored developing economic tools in their dependence on consents (see 5.9). In this way it is evident that the water authorities did not seek engagement with any structures outside their industry to combat their financial difficulties. Kinnersley argues they were more concerned with demonstrating their maturity and management competence to government (1988:120). They neither explored alternative rules and resources, nor sought to right the internal contradictions of their existing ones. In so doing they in effect limited their own choices (Bhaskar, 1978).

Survey Data

A steady improvement in the state of the rivers had occurred prior to reorganisation (see 5.6.4) as evidenced by the 1970, '71 and '72 surveys compared to the first in 1958. However, these improvements were by 1970 deemed too slow to meet the demand for water resources and were a key impetus for the formation of the regional

authorities. Thus on reorganisation of the industry, river water quality was considered an urgent issue. This was manifested during the integration phase by much discussion and debate on the classification scheme, quality limits and river quality objectives (see 5.8.5). Although the sense of urgency would be somewhat abated by the discovery in the mid-70s that the need for water resources was overestimated.

The first survey in the life of the authorities, conducted by the Department of the Environment in 1975, shows an overall decline in total lengths of non-tidal rivers classified as grossly polluted or in real need of urgent attention; although this was offset by some deteriorations of quality in some stretches of high quality rivers, while, non-tidal rivers showed a steady improvement in grossly polluted stretches (Department of the Environment, 1975:6). The second survey, conducted by the NWC in 1980, shows no change from 1975, indicating that RQOs set in 1977 had not been achieved, although there were no deteriorations. However, the 1985 DoE survey revealed the first significant deteriorations since 1958 throughout the country. In the intervening years, limited progress had been made towards achieving RWQ improvements and compliance with sewage works consents. This poor performance was attributed nationally to cuts in capital expenditure and the delay in implementing part 2 of COPA which would allow authorities to be prosecuted. It was only with the introduction of part 2 in 1986 that capital spending within the industry was allowed to rise.

Here the temporal nature of the river water quality issue is significant. Unlike many definitions of strategic issues (see 2.5.1) which regard them as jolts (Meyer, 1982) or crises, RWQ is very much a development or trend (Dutton & Webster, 1988), as opposed to a single event. The cumulative and incremental nature of water quality, apart from gross pollution incidences, does not signal immediate organisational action and this fact was exploited by the DoE in deferring capital spending in that direction (see 5.10.2 & fig 4.1). Deferment of capital spending by the DoE had the effect of

RWQ being perceived, by those under pressure to curb capital spending and to prioritise RWQ amongst many other issues, as a minor, long term and complex issue (Huff, 1982). Thus the results of the 1985 survey may be regarded as a "jolt", although to those in pollution control and regulation this was to some extent anticipated.

With the advent of privatisation the industry changed from a focus on efficiency to achieving consents compliance as part of the new capital programmes. The last survey conducted by the National Rivers Authority in 1990 revealed that the pace of deterioration had accelerated since 1985, which was attributed to reduced expenditure on sewage treatment (National Rivers Authority, 1991a: 28). This survey was conducted too soon to reflect the impact of the investment programmes of the new Water Services Companies. Thus both the 1985 survey (showing a net 2% decline) and the 1990 survey (showing a net 4% decline) reflect the reduced investment by the water authorities between 1976 and 1985. In the same way as increased investment from 1987 was not reflected in the 1990 survey, so the decline in investment in the latter half of the 1970s was not reflected in the 1980 survey. What can be argued is that the worsening trend of the 1990 survey reflects an increasing neglect of water quality through the commercialisation period. These conclusions highlight the close relationship of river water quality to the performance of sewage works and effluent quality.

The results of surveys from 1958 to 1990 are summarised in Appendix 5.5. It is not possible to compare the results from all the years directly, because the classification systems were changed in 1980. However, there was a trend for a small but steady improvement in water quality from 1958 through to 1980, but since 1980 this trend has not continued. The three surveys carried out between 1980 and 1990 used essentially the same classification methodology: it is therefore possible to compare the results directly. The reports of the 1985 and 1990 surveys suggest a decline of nearly

4% since 1985. These results suggest that a real net deterioration in river quality has occurred over the last decade (National Rivers Authority, 1991a: 21-22).

10.2.2 organisational performance

The critical data for the organisational context are the 1975, 1980, 1985 and 1990 surveys. They reflect organisational actions taken from the formation of the authorities until the late 1980s. The case studies show a similar pattern of performance to that of the industry as a whole (fig 10.1). They do, however, differ markedly in their performance over time. For a meaningful comparison to be made between the two organisations it is necessary to consider the baseline of quality from which both began. The 1975 Department of the Environment survey shows that both Severn Trent and Thames had made modest improvements since the 1972 survey in non-tidal rivers (1.5% and 4.3% respectively: 8-9) and dramatic improvements in tidal rivers (26% and 63% respectively: 11-12). Although this last is a small fraction of the total river length in both authorities. However, it is evident that Severn Trent started life from a much poorer base than Thames Water Authority. For while the Thames had shown significant improvements since World War II (see 8.1), the Trent was historically a heavily polluted river and markedly so in comparison to the Severn on reorganisation (see 7.1). In both organisations inherited sewage works were poor, around half producing unsatisfactory effluents (see 7.2.1; 8.2.3). However, the Midlands suffered from the effects of industry and Severn Trent found it had, in addition, very poor industrial effluents. Thames, meanwhile, had benefitted from the attentions of the Thames Conservancy and Port of London Authority. In addition, the visibility of the river in the capital and the far greater amount of recycled drinking water, made for a greater concern for river water quality prior to reorganisation.

Annual reports for Severn Trent show modest improvements in river quality for the years 1974-77, with significant improvements in the following two years. Thames annual reports record quality being maintained from 1973 until 1986/87. Results from

the 1980 NWC survey show no net quality changes for either authority (National Water Council, 1980:14). The poorer baseline meant that Severn Trent was always going to achieve improvements more readily than Thames. What is not obvious is why there was a more dramatic decline in Thames' river quality throughout the 1980s or, conversely, why Severn Trent's rivers did not similarly deteriorate.

Severn Trent from 1979/80 report RWQ improvement as steady until 1983/4 when it slows for the remainder of the life of the Authority. Throughout, the performance of sewage works in the effluent quality produced mirrors these developments. Thames on the other hand report their river quality as "generally satisfactory" apart from the 1986/87 report indicating a downturn in RQOs achieved. They also report consents failures from this time until 1992. By the 1985 survey the two organisations have polarised in performance, such that Severn Trent exhibit a net 3% improvement of rivers changing class (see 7.5.4), while Thames show a net -3% deterioration of rivers changing class (see 8.5.5).

Within Severn Trent these results are perceived as poor as the achievement of RWQOs have all turned down. Within the organisation pollution control attributed the bulk of non achievement to the impact of sewage on the rivers (see 7.5.4). The DoE reported that deteriorated works would be restored by the end of 1986, except where capital works require a longer time scale (Department of the Environment, 1985: 22). The result of the survey for Thames is somewhat worse given their initial better base and the contrary information in their annual reports. The estuary had held its own but the tributaries were affected by increasing urbanisation which the authority's sewage works could not cope with. Prospects for Thames were for substantial river quality improvements by 1990/91, the aim being to achieve RQOs (Department of the Environment, 1985: 24). However, the 1990 river survey shows Thames with a net -14% deterioration in river length changing class, while Severn Trent show a net 1% improvement, due to improvements in sewage treatment. These last results are subject

to some qualification: in the Severn Trent region the rivers were remeasured since 1985 and it was found that class 3 rivers had been underestimated. If the old incorrect lengths had been retained in both the 1985 and 1990 surveys, the 1% net improvement in river quality would be transformed to a 2% net deterioration (National Rivers Authority, 1991a: 33-35). Thus in Severn Trent there is a slowing of the positive trend in improvements since 1985.

In the case of Thames, their greatly increased monitoring programme since 1990 (575 sites compared with 213 in 1985) was seen to be responsible for over half the changes in river class. Those stretches not monitored in 1985 were either assumed to be in their target class or to retain the class assigned in 1980. Thus some of the changes reported in 1990 could have occurred prior to 1985 (National Rivers Authority, 1991a: 38-39). It may therefore be assumed that an even larger net decline in river quality occurred in Thames region between 1980 and 1985 with a correspondingly smaller net decline between 1985 and 1990. Thames therefore shows a pattern of steady deterioration since 1980. The last quinquennial deteriorations were attributed to unusual weather, poor effluent quality and the increased monitoring programme.

The performance of the two organisations is depicted graphically in fig 10.1 and in relation to industry trends. Although Severn Trent begins from a poorer base in 1973, they showed initial improvements and subsequent performance in both authorities by 1980 is static. Between 1980 and 1985 there are marked deteriorations evident in Thames while Severn Trent shows a small improvement. Between 1985 and 1990 both organisations show a declining trend, although Thames show far more significant deteriorations. Thus given the relative baseline of quality from which both organisations began, Thames has performed less well than Severn Trent in showing significant and sustained deterioration in river water quality since 1980.

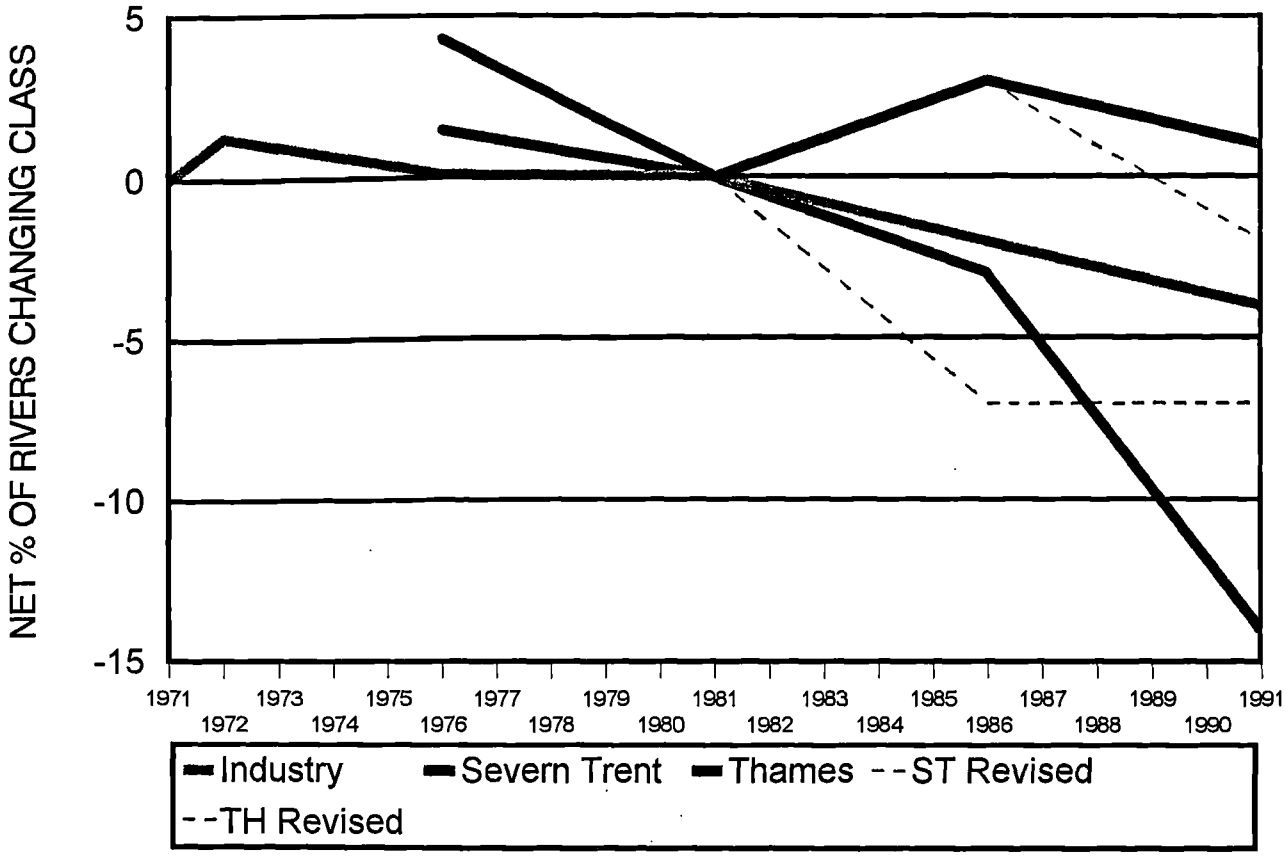


Fig 10.1 Performance in river quality by industry 1973-1990 and Severn Trent & Thames, 1975-90.

10.2.3 issue attributes

The issue of river water quality was intrinsic to the role of the water authorities. It gave impetus to the formation of the authorities and the principle of IRBM upon which they were formed (see 5.7). In this sense river quality was not a new or surprising issue. What was new was the responsibility for its guardianship by organisations also involved in other aspects of the water cycle. This dual responsibility was the source of much debate inside the industry and outside, in the form of various stakeholder groups such as anglers and environmentalists (see 5.7.3). The importance of river quality, then, lay in its management. Could the self regulating organisations improve the rivers where the former River Authorities had failed? More specifically, could the water authorities regulate their own discharges and that of industry equally to improve the river? The challenge for the new water authorities was to integrate all the functions of the water cycle for the benefit of consumers and the

river. In this way, river quality was intertwined, initially with water resources (see 5.8.2) and always with effluent quality, the condition of sewers and the sewerage infrastructure (see 5.8.5). Management of this issue would involve understanding the effects of the different aspects of the water cycle upon the river: balancing priorities and long term plans. Thus the questions for analysis are not about whether this issue was on the agenda - reorganisation ensured that it would be - but the salience of river quality in relation to other issues. In other words how high or low on the organisations' agenda was the issue rated and why?

The river water quality issue has several key dimensions which must be acknowledged. Taking consideration of Dutton's (1988a) issue characteristics: magnitude, abstractness, simplicity and immediacy gives an indication of the potential salience of the issue for the water authorities. The temporal dimension has been seen to mitigate against action to sustain RWQ: the long time lags have tended to decrease the urgency or immediacy of the issue for government and in turn the water authorities. The assessment of water quality is not an exact science and its methodology has been improved with successive surveys since the first in 1958 (Department of the Environment, 1985), while the complexity and evolving nature of this science has meant that there is much scope for debate as to the magnitude of the perceived impact of the issue. For instance will fish kills result? Also, RWQ may be seen to be very abstract, ie non-specific in its determinants vis-a-vis effluent quality, thereby activating a wide range of interest groups. However, the technical sophistication involved in understanding the consent system, debates over river classes and consent limits have ensured that the issue is not always easily comprehended by organisational members. In this way river water quality came to be seen as non-urgent, complex and abstract, with questionable magnitude.

10.2.4 criteria for comparative analysis

A distinct difference in RWQ performance has been indicated between Thames and Severn Trent during the 1980s. Given the demonstrated time lag between action and effect, the relevant time period for analysis covers the period of the organisations in the public sector. It is impossible to give precise time frames for the relevant surveys but a general pattern suggests a time lag of several years before the effects of expenditure are revealed. Thus the 1980 survey must reflect the period from the formation of the authorities until the late 1970s. The 1985 survey reflects that period from the late 1970s until nationalisation while the 1990 survey reflects the commercialisation phase 1983-7. In line with the historical emphasis of this study it is assumed that actions taken during one time period will have a bearing on the next.

Analysis of the industry and organisational contexts reveal a similar pattern in the trajectory of river water quality. Only Severn Trent stands out as markedly different from this pattern in the 1985 survey with a reverting to trend in the 1990 survey. Given the similarity of the industry context for the case studies, an account of Thames' poor performance relative to Severn Trent's requires a closer examination of the internal context of the two organisations. At first glance these contexts show marked similarities: the financial problems of the authorities, the inability to rationalise during integration, lack of adequate regional information and problems of self regulation, to name a few. Also the issue attributes themselves undermined its salience. It must be emphasised that both organisations experienced problems with regulation in the public sector and those whose job it was to maintain and improve quality always felt compromised. How then might one account for the disparity in the trajectory of river quality between Thames and Severn Trent? It is necessary to examine the career of the issue within the two organisations more closely. For instance, what are the key differences in how important signals are interpreted and acted upon? Which processes of organisational life are significant? Also it is important to look at how river quality was ignored or suppressed in both organisations, particularly during

commercialisation. The question here is what elements of the agenda building process elaborated in 2.5.5 are brought into play? The next section discusses how river quality was kept high on the organisational agenda and is followed by a section dealing with its decline on the agenda.

10.3 Maintaining the Salience of River Quality

An obvious starting point into investigating differences in performance between the two organisations is the regulation function responsible for river water quality. Here the leadership and actions on behalf of regulation are significant in issue sponsorship. Equally important, however, is the managerial context in which this function must operate. Dutton and Ashford (1993) have called for more research into understanding how contexts affect processes of issue promotion: that is, the way in which the organisational context facilitates or constrains the promotion of issues. The internal context, in turn, may be seen to be influenced by the issue context itself. Thus these contexts are conceptualised as interdependent and interacting over time but it will be argued later (see 10.5.1) that there is much analytical value to be derived from maintaining the distinctiveness of contexts. The initial favourable trajectory of Severn Trent's performance and during commercialisation may be ascertained by a comparison of the case studies' interdependent contexts.

10.3.1 issue context

It has been shown that at the formation of the authorities Thames and Severn Trent had rather different river quality (see 10.2.2) and this had an inevitable impact on the perceptions of management. Thames' CEO Morrison (1974), in an account to an international symposium writes of the prior achievements of the Thames Conservancy and the Port of London Authority as responsible for the current state of the Thames being: *...cleaner than it has been for generations and the condition of waters is improving every year* (p55). Severn Trent's management, in contrast, were largely

gloomy about the state of their inheritance, reflected in the first 3 years of Annual Reports. Thus although both organisations had problems with their sewage works, their resolution was perhaps more pressing for Severn Trent. As Dutton and Duncan (1987b) suggest, organisations with prolonged periods of performance success have a less radical response to a strategic issue than those which do not experience this success pattern. The issue context at the formation of the authorities was therefore important in shaping subsequent managerial perceptions of its future magnitude.

10.3.2 organisational context

The intertwining of river water quality with the other major functions of a water authority makes consideration of the whole management context important. For how top managers perceive strategic issues affects the range of solutions considered in an organisation (Billings, Milburne, Schaalman, 1980) and influences the amount of resources committed to a project (Staw & Ross, 1978). Severn Trent began life with a history of problems in the rivers and a commitment to their resolution (see 7.3.7). In Thames integration was described as a "passive" period (see 8.3.8) during which management were preoccupied with internal conflicts and suffered from a sense of inertia, attributed to a lack of external pressures (see 8.3.2). Thames' lack of historical problems and introversion allowed their management to grow complacent, lacking the drive and coherence necessary to anticipate and respond to problems (see 8.3.7). This situation continued with new leadership, where under Fish the extent of the warring intensified (see 8.4.1). Although he had been director of Scientific Services, Fish's impact was seen as minimal. He had few personal resources to make inroads into the prevailing culture, and as a scientist Fish lacked the management skills necessary to unify a management team (see 8.4.1; 9.4.3). In this way Thames' organisational context did not facilitate the promotion of river quality.

In contrast, Severn Trent, while experiencing similar internal conflicts (see 7.3.4), never reached the same intensity of personal acrimony as in Thames (see 9.3.3).

Severn Trent had also benefitted from an MMC enquiry during 1979-80, in which a detailed investigation of their management processes led to a more objective view of their strengths and weaknesses (see 7.4.3). Thus Severn Trent could instigate managerial and structural reform at an earlier stage than Thames and also from within the existing management team. The key difference between the organisations was the perception of RWQ by Thames' managers, who by virtue of their glorious past, had convinced themselves that sewage works problems were not a serious issue (see 8.4.4). This bears out the results of past research on the importance of history in determining future organisational actions (see 2.3), and the theory that differences in organisations' belief structures and levels of resources have a systematic influence on organisational adaption (Dutton & Duncan 1987b). Given the similar levels of resources in both organisations, a key variable here is the belief structure which undermined organisational adaptation to deteriorating conditions. In this way, Thames may have not been so prepared for the effects of the capital expenditure cuts in the late 1970s.

10.3.3 the regulation function

Against the backdrop of the managerial context of the two organisations must be seen the way in which they performed their regulatory function. In this respect there are clear differences in terms of issue sponsorship between the two organisations. After reorganisation river water quality is kept prominent in Severn Trent despite the water resources issue falling off the agenda. This is due largely to the efforts of the Director of Scientific Services who acted as a determined issue sponsor during the first ten years of the authority. In terms of personal resources, Fred Lester of Severn Trent was fairly evenly matched with his counterpart in Thames. Hugh Fish also came with a distinguished career record and OBE. Both were considered as spokespersons within the industry. The particular history of the Severn Trent region, and Lester's part in it, lent him the image of a "crusader". In this he was supported by the first Chairman, Sir William Dugdale, who had previously chaired the Trent RA and RA Pollution

Committee and now persuaded the Board of the importance of river quality (see 7.2.1). In contrast, the suggestion by Fish to retain a firm of consultants as "gamekeepers" was rejected by their water quality panel (see 8.3.6). The difference in organisational actions to promote river quality must be seen in the light of these divergent issue and management contexts.

Dutton (see 1988a) has proposed that evidence for the allocation of an issue lies in its being named, the commitment of managerial time, the collection of information on the issue and that individuals are able to converse about an issue. Lester's initial actions were to instigate the production of Water Quality reports (see 7.2.1), something which few other water authorities did, a conduct:...*which shone like a good deed in a naughty world. Sadly this brave and constructive initiative was scarcely followed by others* (Kinnersley, 1988:121). These reports, which continued throughout the life of the authority, were both innovative and political. As one former pollution officer and writer of these reports remembered: ...*it was trying to show...the brave new water authority was genuinely making some improvements.* Certainly Lester could appeal via these reports to his professional expertise and the undeniable objective science upon which the data was based: and, in so doing, legitimise the regulation function of the authority. As he himself stated: *it gave strength to your elbow* (see 7.2.1). It is also significant that Lester championed the issue at formation of the authority, for founding strategies play an important role in either limiting or encouraging strategic change (Boeker, 1989). In this sense Lester mobilised his resources of experience and expertise to produce a further resource in these reports.

In Severn Trent the collection of information was significant, for as Hilgartner & Bosk (1988:62) testify:...*the drama of an issue's presentation gives an issue life and sustains its growth.* More formalised data-based descriptions of an issue typically follow such stories. Certainly the language of the early reports testifies to the drama which was evoked around river quality: *The Authority has a truly gargantuan task if*

the quality of our rivers is to be maintained and restored so that, where appropriate, they may be used as raw water for safe and acceptable drinking water supplies...(Severn Trent Water Authority, 1973b). Thereby they appealed to the public health values of the organisation. Further, the Water Quality reports created a public drama (see 7.2.1) by naming those industry and local authority dischargers who refused to allow publication of their consents under the pre COPA II law. Indeed, the public nature of this document meant Lester could hold up the imminent threat of COPA 2 as a spur to action. In this way river quality became labelled as a threat. As a result of the internal commitment to the rivers, resources were made available for works improvements. Severn Trent also set river quality objectives with time limits in 1978, in response to the national initiative by the NWC. As capital expenditure plans for sewage treatment were linked to the progressive achievement of RQOs (see 5.8.5), this no doubt contributed to first dramatic and then steady improvements in river quality throughout the 1970s and early 80s, reported in the Water Quality reports.

Even the first structural compromise to regulation for Severn Trent, with the disbanding of the two river divisions amid much furore in 1975 (see 7.3.1), did not stem the interest in river quality. Within a year of reorganisation river quality was very much an alive issue, the changes subject to considerable adverse criticism by staff and NALGO. Even the Surveyor was somewhat cynical in its report as to the organisation's motives. Despite these forces for integration, Severn Trent had a champion for river quality in the Director of Scientific Services and the issue was high on the agenda. The dominant PH ideology facilitated the maintenance of distinct occupational territories between Regulation and Operations (see 9.3.1). In this way Lester could continue as far as possible the previous style of regulation, emphasising an audit role familiar to PH values, while at the same time exploiting the contradictions of the new situation for his own ends. For instance, by "doing deals" with the Director of Operations (see 7.3.7) on sewage regulations, Lester was exploiting the contradictory gamekeeper-poacher status of the authority to ensure the

allocation of resources. Thus, just as groups play an important role in getting issues onto the agenda and in keeping them off it, they also play a crucial role in preventing the removal of issues and policies from the political agenda (Richardson & Jordan, 1979). Here too is evidence of conflicting claims and empowerments being utilised by an agent for his own ends (Sewell, 1992).

The Thames Conservancy by comparison, with its long and prestigious history of cleaning up the river, was along with the rest of the organisation "living off the tideway" (see 8.4.4). If they felt frustrated by the squeeze on capital expenditure, they nevertheless maintained amicable relations with the divisions (see 8.4.4). The issue was more or less buried by internal conflict and the subsequent history of the issue for Thames is one of non-emergence or non-decision making (Bachrach and Baratz, 1963).

Within Thames information on river quality was not as extensive as Severn Trent. Fish chose not to produce a water quality report, a data base on works performance and river water quality was maintained but no separate document for the public domain. The Planning department's internal publication on quality matters was disbanded by 1980. Indeed, Planning conflicted with Scientific Services and upset Fish when they contradicted the possibility of achieving their quality objectives (see 8.3.7). Overall, the gathering of data was a lacklustre affair and divisions were reluctant to fill in forms (see 8.4.4). Later, as CEO, Fish could not adopt a sponsor role as he was constrained by conflict at the centre and pressure from the DoE (see 8.4.1). His new role did not allow the same sort of focus as a Director of Scientific Services. Throughout the period in the public sector little monitoring was carried out and there was little concern about meeting the EC directives (see 8.5.5). As the data were never collected, management rarely received performance reports. River quality objectives were set, but without time limits (see 8.8), thereby failing to give emphasis to any sense of immediacy in river quality. Later, when problems became evident, a

reluctance to accept these meant the authority could never convince the government of the need for investment (see 8.6.3).

During commercialisation both authorities show a decline in standards, although for Thames this is by far the most considerable decline. The National Rivers Authority (1991a: 25) write in their 1990 survey: *For regions reporting a decline in quality from 1985 to 1990, South West and Thames stand out.* Severn Trent's Fred Lester had retired by 1983 and Scientific Services subsumed into the Operations Directorate. Also, since 1982 pollution control had been compromised by their absorbtion into multifunctional divisions (see 7.4.4). River quality had declined in importance, beginning with the financial constraints of the late 1970s. In contrast, Thames had always kept pollution control separate and close to the centre, in order not to compromise regulation (see 8.6.3). To account for this incongruity between regulation and performance one must consider the leadership and organisational contexts of both organisations at this time.

10.3.4 leadership context

Following nationalisation the two organisations exhibit distinct differences in the speed with which they embraced commercialism and the individual leaders who would shape their development (see 9.4.3). Thames' leadership in the privatisation debate resulted in a very external focus. Even the managerial changes and commercial developments were part and parcel of the drive to ensure Thames' position as a viable candidate for privatisation, if not the first. River quality and consents standards were not important until privatisation made them so. In contrast, Severn Trent experienced a more gradual change with far less turbulence. For instance, they largely retained their existing managers, had fewer changes of CEO and fewer failed directors.

Severn Trent became mobilised into action around concern for standards by their Chairman John Bellak. Thus when more capital became available with the

introduction of COPA 2, Severn Trent began to take action and target money where it was needed (see 7.5.4). In terms of river quality, Bellak's personal resources for persuasion included his prior association with the Authority as a member of the fisheries committee. He was known as a keen bird watcher with an interest in the environment and had political connections (see 9.2.3): *I knew a lot of the ministers from old times and if I was a nuisance, at least they knew I was on their side.*

On arrival, Bellak became very involved in the organisation (see 7.4.5), thereby acquiring the resources crucial to having one's demands met: system relevant expertise, political access and sensitivity, control over information and group support (Pettigrew, 1977). He also brought his private sector experience to bear, via stories and examples, in exposing what he saw as the contradictions between commercialism and not maintaining standards (see 7.4.5; 7.6.7): *I personally promoted it...if you have consents on sewage works it seems to me that in principle you should try to meet them.* In this way he demonstrated the potency of metaphors and analogies for ideological change (Meyer, 1982) and how language may compel action (Pettigrew, 1979). More specifically, in drawing upon the rules of capitalist logics as part of the cultural change, Bellak may be seen to reconstitute a commercial ethos as well as himself as promoter of it (Knights and Willmott, 1987). Bellak arrived in the Authority at a time of low consensus and little team spirit, particularly within divisions (see 7.4.4). Research into belief structures (Dutton & Duncan, 1987a) and information gathering (Jackson, 1992) amongst managers show, the more differentiated the beliefs, ie low consensus, and the more heterogeneous the team, the greater the possibility of importing new information into the group and the greater the feasibility of change. These findings support Dutton and Ashford's (1993) hypothesis that issue selling is more successful at gaining top management's attention where they have varied belief structures.

Very early on Bellak promoted getting sewage works up to scratch and investment in either renewing or relining pipes. In this he was challenged by the Treasury but: *...took advantage of the fact that Ministers changed fairly frequently and just went on doing it.* Bellak, with the STWA Directors, began to question the funding rationale of the Treasury and challenge back (see 7.5.2). In utilising capitalist logics to support a traditionally public sector function, Bellak was demonstrating that commercialism and regulation could coexist, at a time when organisational members were deeply suspicious of the new ideology and its potential effect on quality. In this way, the Chairman was able to legitimise a new vision of the organisation by questioning ongoing practices of adaptation at a time when the organisation was feeling the strain. As in Kiesler & Sproull's (1982) work, exemplars and vivid stories make material about an issue more salient, making it easier to encode and to retrieve such material. Similarly, as with Dean's (1987) work on innovation champions, Bellak's actions highlight the importance of using emotion and passion in successfully pushing new ideas. The MD relates the positive influence that the Chairman brought in saying: *If there is a standard it must be met. There is no excuse to say that resources are not available, we have to meet it.* The main thrust of Bellak's argument was that quality was everyone's responsibility in the organisation and not just an audit function (see 7.7.5). Here he was calling upon the rules of the New Public Management (see 6.5.2). In particular the emphasis on performance indicators (see 6.5.3) could be employed to insist on standards as one of the measurable outputs. This would later be used to great effect during privatisation (see 7.6.4). In this way Bellak also reversed the trend of subordinating river quality to finance and so emphasised its importance. Maintaining standards was in many ways an opportunity to embrace the new ideology.

The drive for greater management accountability in the late 1980s may also have contributed to the successful selling of the issue. Dutton & Ashford (1993) have hypothesised that where an issue is framed through time in a manner that implies top management's responsibility, the greater the level of attention will be invested in the

issue. Thus issue framing is important because it shapes and directs subsequent issue-relevant activity (Dutton & Ashford, 1993). The focus on meeting standards can be seen as the beginnings of a quality ethic in the organisation (see 7.7). During privatisation, Bellak utilised his contacts to obtain resources for quality: *I think during the privatisation period Nick knew that I was supporting his principles, therefore he was prepared to listen...and usually responded.* The drive for compliance unearthed the legacy of Fred Lester's reign in the form of many complex and varied consents standards which had been ignored or misunderstood since his retirement (see 7.6.4). New initiatives at Board level in the run-up to privatisation included the introduction of performance related pay which provided bonuses for compliance with these standards (see 7.6.4): *We were well on the way to 100% compliance before a lot of the other companies. And we got there first* (MD). The NRA unit was set up earlier than other authorities in 1987. Such initiatives gave the organisation the ability to solve its problems. In framing river quality in a way which gave management a sense of control over achieving compliance, its importance was enhanced (Dutton & Duncan, 1987a).

10.3.5 summary

Dutton (1986) found the more an issue is perceived to be a crisis, the greater the resources devoted to an issue and the greater the centralisation of authority by top level decision makers in tasks related to the issue. Thus, for Thames, the issue context, managerial perceptions and tasks related to the issue combined to keep river quality as a non-urgent issue. Thames could never have a clear overview of the extent of their deteriorations until the survey in 1985. This, combined with an inability or unwillingness to acknowledge problems, resulted in the issue maintaining a low profile on the agenda. As CEO, Fish had centralised pollution control at headquarters in 1982 as part of his response to perceived sewage works failures (see 8.4.2). However, he was never in charge of a unified management team (see 8.4.1) and a year later the massive changes occurring with nationalisation eclipsed these moves. From

within Severn Trent an issue champion chose to capitalise on the issue context and keep river quality alive by providing information appealing to PH values and setting timescales for improvement. After his retirement the issue was taken up by another sponsor under the guise of commercialism. The linking of a total quality ethic to regulation ensured Severn Trent could capitalise far quicker on the capital resources for compliance presented with privatisation. In this way, both issue sponsors maintained interest and action by linking river quality with the current organisational ideology.

10.4 Issue Suppression

It will be evident throughout that quality was difficult to maintain for both organisations and regulation was compromised by the dual role of the authorities in the public sector. In this section the way in which river quality was undermined or ignored in both organisations, leading to poor performance, will be examined. This was particularly evident in Thames during commercialisation, attributable to its leadership context and Severn Trent during nationalisation, when structural change undermined the role and function of the regulators. But there were other factors to do with the external context which conspired to make it difficult for the regulators to exercise their profession in both organisations throughout.

10.4.1 leadership context

The commercialisation period for Thames was one of great turbulence and trauma. Roy Watts had thrust the organisation into the limelight by proposing Thames as the first water authority to be privatised (see 4.10.7). In this way the speed and depth of ideological change was greater (see 9.4.3). As a man with a mission, Watts possessed great personal resources (see 6.6; 9.2.3.2) and had made a big impact on the organisation (see 9.4.2) in his ambition and drive to make the organisation more commercial and ultimately to privatise (see 8.5.4). In line with his ambitions, Watts

only became interested in the environment when it became important to the City (see 8.6.3). This despite being a champion of the consumer (see 8.5.4) and the rise of environmentalism and its politicisation in the mid-1980s (see 5.10.5).

Managerial choice may be seen to be as much influenced by personal vision as the organisational context which managers are helping to shape. Roy Watts took leadership of an organisation which regarded itself as "the best" in the industry (see 8.3.8) and this included the belief in good river quality and no internal problems. Management told Watts as much on his arrival (see 8.4.5). Watts' vision to create the best water company in the world did not concur with a recognition of failing sewage works and deteriorating river quality. Also, it is notable that his failure to convince the government to privatise the rivers left him somewhat jaded about the whole privatisation exercise (see 8.5.5). Eventually depression brought on by ill health caused him to commit suicide in the River Thames. Severn Trent differed in their ready acceptance of quality problems, thus marking out a distinction in terms of organisational identity. This lends support to Dutton and Penner's (1994) proposition that organisational identity provides a causal link between the interpretation of strategic issues and the organisational context. One may then draw further links between organisational identity, history and the perception of strategic issues.

For the large part, Thames was focused on efficiency and commercial opportunities, evidenced by the fact that they were the first to repay back debt, their contract with the Indian Government to clean up the Ganges and their new pier at Westminster (Thames Water Authority, 1985/86). Consents compliance and river quality objectives were secondary to the privatisation campaign, which consumed much of top management's time during this period (see 8.5.4): hence the non-reporting of river quality problems until after the publication of the 1985 survey (see 10.2.2). Indeed, Watts single mindedly wished to keep the rivers in order to exploit them for their commercial potential (see 8.5.5). In contrast, Bellak was quick to dissociate himself from this idea,

on the basis that it would not have political support (see 7.5.3). Thames' leadership had to a large extent focused on the external political environment and Thames' role in setting the agenda for privatisation (see 8.6). In so doing, they had diverted their attention from internal issues, particularly consents compliance and river quality (see 8.6). Hence the period was a poor one for pollution control, with efficiency drives undermining the sewage works capacity, poor management and little monitoring (see 8.5.5). The contrast between the two organisations demonstrates the choice which managers have to focus upon certain issues given very similar external environments. Also, that the pre-existing structures selected by managers for action may be used for different ends. In this way managers may selectively draw upon rules and resources and so maintain: *a critical distance for strategic manipulation* (Whittington, 1992).

10.4.2 structure

A noticeable difference in the two organisations was the structural differences in relation to the regulation function. Thames always kept pollution control separate from the operational part of the organisation to maintain a proper division between operations and the regulators: while for Severn Trent, the structural change in 1982, whereby pollution control were absorbed into divisions, was seen as a major compromise to the integrity of the regulation staff (see 7.4.4). Dutton (1988a) has hypothesised that the structural location of issue sellers would affect the probability that an issue would be placed on the organisation's agenda. The period between 1982 and 1987, before the rise in capital expenditure for privatisation, was a difficult one for both organisations in which to maintain the salience of river quality. Therefore it may be concluded, given their poorer performance, that the organisational identity and particular way in which the ethos of commercialism manifested itself in Thames (see 8.5), had an overriding effect on any structural advantages the organisation may have had.

The impetus for Severn Trent's 1982 structural change arose from the perceived need to rationalise resources and the power struggle between Scientific Services and Operations (see 7.4.4). If CEOs primarily interpret strategic issues and act to coalign the strategy, structure and environment of the organisation to address these interpretations (Ritvo, Salipante & Notz, 1979), then it is clear that river quality was being framed in terms of its economic consequences. By subsuming pollution control into divisions a necessary relationship was established (Tsoukas, 1994) in which the emergent powers of control held by divisional managers were employed in the interest of prioritising resources and compromising standards. The structure held far more constraining than enabling rules and hence few resources for the regulators. There were various aspects of this structural change which contradicted the regulatory function. It had implications for the role of pollution control officers and the regulatory activities of the organisation as a whole. Primarily, the move took away PCOs' independence and gave them divided loyalties (see 7.4.4) between their division and Scientific Services. The enforcement of standards by PCOs was discouraged by divisional managers: a situation which PCOs felt very bitter about and which effectively discouraged any highlighting of the issue. Dutton & Ashford (1993) hypothesise that an individual's willingness to promote an issue may depend on perceived power, being derived from both personal attributes and structural location in the organisation. This supports the findings by Schillit and Locke (1982) that the degree of supportiveness and open mindedness of the top management group should affect lower level participants' motivation to sell issues.

10.4.3 sponsor role

There were a number of significant differences between those employed on the regulation side and those people in operations. These differences were to some extent exacerbated when regulation was felt to be compromised, particularly during the 1980s. Those employed in pollution control were historically different. Many had come from the old river authorities and pollution control was always professionally

distinct from sewerage and sewage disposal. People were seldom members of both professional institutions (see 6.2.2). Academically they differed in that pollution control required more chemists and biologists while operations tended to be engineers.

These differences translated into perceptions around work practice. Pollution control were always more protective and interested in the river than the organisation as a whole. Essentially PCOs would regard their work as a vocation and hence take a very "pure" view of their job while operations were perhaps more pragmatic (see 7.4.4; 7.5.4). Additionally, the complexity of water science meant that the standards devised by many PCOs were not easily understood by management or operators at sewage works (see 7.4.4; 8.5.5). The achievement of required standards often involved designing works beyond the capability of the operational people (see 8.3.7). Pollution control tended to regard quality as having an absolute standard and so were discontented throughout much of the life of the authorities with the many compromises made to consents. This was particularly noticeable in both organisations on formation of the NRA when many personnel on the regulation side welcomed the change (see 7.6.4; 8.6.2).

For Severn Trent, the 1982 move into divisions highlighted these personnel differences, particularly the additional work of trade effluent control for PCOs alongside operations people. There is evidence to suggest this situation created interpersonal tensions (see 7.4.4). This combined with providing advice on works standards and the successive reviews of consents meant their regulatory responsibility was diluted. Dutton & Ashford (1993) have called for research into how the role characteristics of the issue seller affect issue selling. As PCOs in both organisations felt ambivalent about committing themselves to the organisation over their profession (see 6.2.2), an organisational context not conducive to regulation would undermine ambitions to seek innovative ways of promoting the issue. These findings suggest that

organisational integration and congruence are necessary for individuals to feel confident about promoting issues.

10.4.4 function

Prior to the formation of the water authorities, the River Authorities had clearly defined statutory responsibilities within an adversarial system (see 5.6.2). Within these organisations pollution control officers had free rein to practise their profession, unhindered by the more diverse considerations of a water authority. After 1974, appeals to the objectivity of standards and evaluative measures could always be countered by the actions of the authority. This occurred with the larger, and at times more favourable, sample sizes undertaken by divisions. Also, organisational loyalty influenced the setting of RQOs in 1978, such that for example, standards were compromised by Severn Trent being the biggest discharger (see 7.3.7). Furthermore, in anticipation of COPA 2, the WAs were aided by the DoE in setting works consents to their volume capability as opposed to the needs of the receiving stream. In this way, the goalposts were set at what the current level of investment was capable of meeting. All of these actions contradicted the rules of regulation and offended the professional codes of conduct by which pollution control operated.

The water authorities increasingly found themselves under conflicting pressures, on the one hand to make quality improvements and on the other to cut costs. The organisations therefore built a priority system into the capital programme whereby managers would code requests for finance according to priority. This was usually accorded to drinking water quality (see 7.4.4; 8.3.7). Objectives were compromised, deteriorations were not addressed and problems became locked into the capital programme. The result was a limited movement towards long term consents and a backlog of asset renewal work (see 7.5.4; 8.6.3). Another consequence of the focus on costs was the contradiction between the policing role of the authority and income from industrial discharges (see 7.4.4). A general lack of objectives meant unclear

guidelines on practice and a lack of strategic direction. This lack of strategy is perhaps one reason the issue could never be promoted by Thames during commercialisation: if as Dutton & Ashford (1993) hypothesise, issue selling is dependent on whether an issue is framed as strategic, then issue sellers may find it difficult to promote an issue with no strategic framework to hang it on.

One result of divided loyalty and internal suppression was a lack of even-handedness in the regulation of the authority and industry (see 7.4.4; 8.6.3). At times samples were even removed from the register after it had been implemented. A former pollution control officer in Severn Trent related how a colleague was so disillusioned that he would write the numbers for consents on a playing card and spin it to arrive at a decision. As Alvesson (1990) notes, where members find organisational signals disaffirming or undesirable, they may reduce their commitment to the organisation and withdraw from attempts to sell issues in the future. This finding also supports Sewell's (1992) third axiom on structural change (see 2.1.3) whereby regulation's lack of validation by resources resulted in PCOs modifying their rules for action and hence the schemas underlying regulation.

10.4.5 external context

The way in which the external context shaped organisational perceptions of river quality is important in understanding the demise of the issue. It has been shown that the economic system was pivotal in driving political and hence organisational actions (see 10.2.1). RWQ declined in importance as the issue came to be seen as a function of economic expediency and subject to the fortunes of the sewage works resulting from capital expenditure cuts. The 1976 moratorium and the financial controls from 1979 served to undermine notions of an absolute standard for water quality. River quality now became part of the package of operational activities, subject to prioritising and reinforced by the integrated nature of these enterprises. There was therefore a contradiction between economy and self regulation, evident in the

deferment of COPA 2. Even the establishment of RQOs was made on the basis of the purposes for which the water was used, with the effect that the DoE could allow consent relaxations (see 5.8.7) to save money. These actions by government diminished the causal powers of regulators which would weaken their function within the authorities and in turn impact upon their tasks and hence roles (Tsoukas, 1994). The uncertain economic climate of the 1970s which then gave way to the rigid economies of the 1980s made it difficult for organisational members to see an opportunity for a resolution to the problems of declining sewage works. As Dutton & Webster (1988) note, interest in issues declines with uncertainty and increases with perceived feasibility of resolution.

The complexity of the issue and controversy surrounding the measurement and evaluation of river quality would also serve to minimise its salience to organisational members (Dutton, 1988a). The NWC classes were criticised as being too broad to make changes in class meaningful and the 95% limits were also seen as a compromise (see 5.8.7), thereby highlighting the controversy between purists arguing for absolute standards and pragmatists arguing for relative standards.

10.4.6 summary

The contradiction between the financial predicament of the authorities and their role as regulators resulted in managerial actions which undermined the importance of river quality. In this way, management variously altered the mechanisms for issue judgement and assessment, subordinated the issue to financial objectives, located the regulators unfavourably and effectively ostracised the issue outside the strategic frame of reference. The organisational structure of Severn Trent in this way formed a set of simultaneously constraining and enabling rules and resources, implemented in the interaction of organisational members (particularly where they differed), who in turn shaped that interaction (Tsoukas, 1994). In this way, the regulators began a spiral of decline in causal powers as they perceived the majority of the structural properties of

the organisation to curtail their very roles as regulators which in turn contributed to these perceptions. In Thames, the issue was effectively ignored during commercialisation by a leadership devoted to ideological change and internal reform. Strategic issues were important only insofar as they furthered these leadership aims and river quality subsequently deteriorated.

10.5 Implications for a Model of Strategic Agenda Building

The present study on the trajectory of river water quality within two water authorities has shown a variety of agenda building actions: those which maintained the salience of the issue on the strategic agenda, actions which promoted issue interest and those which ignored or undermined interest in river quality altogether. In brief, the focus has been on the confluence of organisational tensions and actions which conspire to give a strategic issue a higher or lower profile on the strategic agenda. As such, the implications are for a model of strategic agenda building where tightly interwoven contexts provide a range of structural rules and resources by which management choice is possible. Three interrelated contexts have proved important for this study: the issue context, the external context and the organisational context. Although they are assumed to be interactional and interdependent, there is significant analytical value in separating these contexts. The distinctive nature of the model's contexts are discussed and analysed in turn. Finally, the implications for issue sponsorship are considered.

10.5.1 the distinctiveness of contexts

The interlocking nature of the external, organisational and issue contexts is to be found in their common socio-structural roots, from which their structures draw inspiration and causal powers. This was amply demonstrated with ideology in chapter 9 and illustrated by the way in which issue salience could be modified by rules and resources emanating from all levels. Also contexts are interactive over time, such that

the intersection of structures may take place in both the rules and resources dimension (Sewell, 1992). Thus Bellak could appropriate rules from the private sector to argue for standards in the public sector. However, to discuss agenda building purely in terms of the operations of structures, is to ignore disparities between structures which account for the magnitude and kind of influence upon the agenda building process. The degree and pattern of structural influence may be attributed to four dimensions along which contexts differ. These are temporality, dynamism, sphere of influence and the modality of structures:

1. Temporality Bhaskar (1986) has distinguished between different modes of temporality in social life, from the individual human being to the longer duration of institutions, to the biological history of the human species. At each contextual level different temporal modes account for the duration of structures and hence ability to cast influence over the agenda building process through the cumulative effects of time (Sztompka, 1991). Thus the external context has vested river water quality with centuries of salience regarding pollution, largely from the communal structure. The case studies on the other hand were influenced by developments in their region largely since 1945. Whipp's (1995) discussion on the plurality of time, from three areas of strategic change, provides evidence for the diversity of constructions and uses of time at the industry and organisational levels. Thus the contextual location of an issue has implications for its history and the durability and influence of the structures with which it is connected.

2. Dynamism Following on from the last, each context will exhibit different dynamics, ie the rate of temporal change: so that for example, at the level of the industry, change in the form of reorganisation, nationalisation and privatisation were the key events over 15 years, whereas the repercussions on individual water authorities were additionally manifest in many discrete changes over this period. The changeability of structures has implications for the durability of the rules and

resources guiding action and to which issue sponsors may have access, and for the durability of the configuration of necessary relations within the structures (see 4). This may also in part explain differences in responses to issues by organisations from different industries with different dynamics.

3. Sphere of influence Each context may be seen to differ in the focal range and hence power of their relevant structures which gives rise to a different scope for the phenomenon under investigation. In the external context, organisations like the DoE and pressure groups are concerned with river quality as part of a package of issues under the banner of environmentalism which impact nationally. At the industry level it was a matter of regulation by individual water authorities. At the level of the water authorities, river water quality is a management function, of concern only within their region and as such their causal powers are relatively restricted. Thus change in the social context vis-a-vis water quality will have a more significant impact upon the water authorities than they themselves could effect upon a wider context. Similarly, individual issue sponsors are simply concerned with river quality as it impacts upon their organisation and their power is to some extent conditioned by their location in this context.

CONTEXT	PHENOMENA	AGENTS	STRUCTURES
Society	Environmentalism	DoE/Pressure Gps	Political, Communal, Eco
Industry	Water Regulation	WAs/ Indus Bodies	Professional
Organisation	Mgmt Function	Regulators	Industry
Issue	Sponsorship	Sponsor	Organisation

Fig 10.2 Agenda Building Contexts

In this way, as demonstrated in Fig 10.2, agents at each contextual level will engage with different social structures as part of their activities, although this does not limit the range of structures which may be called upon to inspire action. However, the types of structures with which they are engaged condition both the range of agential influence and power to effect change: hence the advantage of membership of multiple

structures which the water companies recognise when they arrange regular meetings with environmental groups.

4. Modality of structures The different spheres of influence necessarily give rise to different structural forms. For instance, regulation at the industry level may embrace the communal, scientific and political structures of environmentalism but also includes the properties of professionalism. Likewise, the water authorities may embrace various rules and resources from all the proceeding contexts including the industry structure rules which endow their managers with power. But the authorities in turn created their own unique structural configuration, based on their history, differences in personnel and development pattern. These structural configurations may be seen in Tsoukas' (1994) terms of a configuration of necessary relations. Here power relationships are expressed by the necessary interactions of agents, contingent upon the properties of that structure. At the level of the issue context, sponsors acquire the power of agenda placement via the mobilisation of the necessary relations within the organisational structure. This is explained in fig 10.3 where particular positions within the organisational structure endow sponsors with theoretically necessary ways of acting. For instance, their role and status may be conferred by the structural form and management perceptions. These organisational features are influenced by ideology which also conditions the salience of an issue and the content of the strategic agenda. If a sponsor manages to make the issue relevant to the organisational structure, he or she will in turn be vested with a set of causal powers that define their role as sponsor and hence the ability to effect action on behalf of the issue. Insofar as salience will propel an issue higher up the agenda, so too does the activation of the rules and resources of issue related activity reinforce its significance on the agenda. Conversely, a sponsor wishing to effect industry wide change in relation to river quality would have to engage with a wider set of structures.

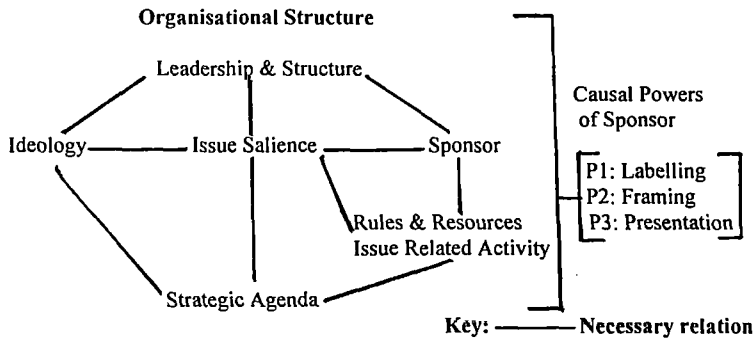


Fig 10.3 Relations of Causal Powers for Issue Sponsorship
adapted from Tsoukas, 1994

At each level then, structures owe something of their modality to wider contexts, although these are not overwhelming, due to the ability to import alternative structural rules (Whittington, 1992; Sewell, 1992) and because in each context structures adapt and evolve to their circumstance. In this way each contextual level has its own nexus of intersecting structures with their own sphere of influence, dynamism and temporality. This has implications for the history of an issue, the durability of the mechanisms underlying action, the breadth of structural influence and the configuration of power relationships which sponsors must comprehend.

10.5.2 the issue context

The key features of the issue context are those dimensions which impact on the salience of an issue. While core function was undoubtedly powerful in ensuring river quality a place on the organisational agenda, it was not enough to ensure high agenda placement. More important was the immediacy or the urgency of an issue in attracting organisational attention (see 10.3.2), which could be facilitated by the way in which the issue was presented and its historical associations. Also, the magnitude of an issue will be enhanced by its links to organisational history and ideology (see 10.3.2; 10.3.3), thereby influencing the radicalness of response to an issue (see 10.3.1). In contrast, the complexity or controversy surrounding an issue will be influential in reducing its interest for organisational members (see 10.4.4; 10.2.3). Therefore, issue

salience is crucial in shaping managerial perceptions and belief structures (Dutton and Duncan, 1987b).

Labelling an issue either as a threat or as an opportunity affects both subsequent information processing and the motivation of key decision makers (Dutton and Jackson, 1987). It is evident that Lester presented river quality as a threat to the authority (see 7.2.1). Later, when the authority became concerned with financial constraints, these overshadowed the river quality issue. Particularly given its tendency to possess long term, minor and complex attributes (see 10.2.1). In contrast, Bellak's presentation of the issue as an opportunity for organisational change put river quality on a par with current organisational events and linked it to action. In this way, labelling an issue as an opportunity may have greater potential for sustained organisational interest and action. These findings confirm the work of previous studies, that perceptions of strategic issues shape organisational action (Billings, Milburne, Schaalman, 1980; Dutton, 1986; Dutton & Webster, 1988).

10.5.3 the external context

The external environment at both the macro and industry levels has been instrumental in shaping organisational perceptions about river quality. The historical conflict, between the communal concern for the river and economic and political expediency, continued with the formation of the authorities, with consequences for subsequent issue related developments. Political and economic considerations have been shown to influence the perception of issue dimensions by the way in which they framed river quality. For instance, the linking of river quality to the fortunes of the sewage works diminished the distinctiveness of the issue by subsuming it within operational problems. This in turn presented organisational members with the dilemma of attending to regulatory matters at the expense of other organisational functions (see 10.4.2). In this way, interest in the issue was diminished by affecting the perceived feasibility of resolution or control.

Also, actions from the political environment to defer legislation and alter standards undermined the urgency of river quality (see 10.4.2). Similarly, at industry level, new developments in river classification and assessment, with their accompanying controversy, enhanced the complexity of the issue, thereby diminishing its salience for operations personnel. The way in which internal policy-making or non-policy has been shaped by external contingencies demonstrates how the micro-politics of the firm are linked to the macro-politics of the firm (Pettigrew, 1985a).

In this way the external environment is important in shaping organisational members' perception of issue salience and their ability to undertake any resolution of the issue (Dutton and Duncan, 1987a). The way in which the external environment threw up counter issues supports Dutton's (1988a) model in demonstrating how the inclusion of a strategic issue on the organisational agenda is affected by the set of issues already under consideration. Further, the way in which a strategic issue is linked to other issues may serve to influence its salience for organisational members.

10.5.4 the organisational context

It has been shown that the organisational context is crucial in facilitating the promotion or selling of strategic issues. Particularly important are the links between strategic issues, managerial perceptions and belief structures: the role of ideology and structure and the management of task related rules and resources by the organisation.

Managerial perceptions were significantly shaped by the external environment and the issue context. The difference between Thames and Severn Trent illustrates the impact of the historical context of an issue which in turn gives rise to belief structures about the issue's magnitude (see 10.3.2). The contrasting case studies also demonstrate the significance of the characteristics of the top management team in their willingness to respond to issue signals. Thus, internal conflict and low consensus in Thames

contributed as much to the denial of river quality (see 10.3.3) as low morale in Severn Trent facilitated the importation of new ideas into the team (see 10.3.4).

Organisational ideology is also an important vehicle whereby issue sponsors may maintain the profile of an issue (see 10.3.3) and promote it higher up the agenda (see 10.3.4). In particular, leaders are shown to play an important role in shaping and promoting this ideological context (see 10.3.4; 10.4.1). Similarly, insofar as managerial belief structures give rise to a distinct organisational identity, this may be crucial in determining managements' choice of which issues to respond to and which to ignore (see 10.4.1).

Although structure appears to have less influence on issue salience than organisational identity (see 10.4.3), it nevertheless has important effects where it is manifest. For instance, structure is important both in locating issue sellers with subsequent impact on their role and task related activities and in sending signals which frame the issue for issue sponsors (Dutton, 1988a). This gives support to Dutton and Duncan's (1987a) proposal that organisational structures shape perceptions of strategic issues.

The way in which an organisation manages the rules and resource (Giddens 1984) around issue related activities will influence a sponsor's commitment and ability to promote the issue (see 10.4.5). In this way, the lack of evenhandedness towards industry, compromises to standards and, at times, outright flouting of the rules, sent signals which reduced PCO's commitment to promoting river quality: while the priority system built into the capital programme reduced resources for river quality objectives and so effectively forestalled any strategic planning by which PCOs could promote river quality. In this way, the lack of resource accumulation in terms of the regulators' status and role acted to diminish the reproduction of sound regulatory activity. If the reproduction of rules depends on their continuing validation by resources, the lack of validation will modify the rules (Sewell, 1992).

10.5.5 issue sponsorship

The ability of organisational members to act on behalf of issues is conditioned by both their organisational context and personal resources. Actions taken to promote issues are most effective when they frame issues in ways which emphasise their salience are congruent with organisational ideology and can exploit the rules and resources of issue related activities to their advantage.

The difference between the case studies demonstrates the significance of managerial perceptions and identity in providing a receptive organisational context for issue sponsorship (see 10.3.3). Thames' management were focused throughout on alternative issues (see 10.3.3; 10.4.1) and they adopted a more favourable perception of their performance in river quality. Severn Trent's management were conditioned by a different historical context (see 10.3.1) and hence perceptions around river quality (see 10.3.2). More importantly, there were issue champions from within the top management team at crucial time periods (see 10.3.3; 10.3.4). It is not surprising, given the difficulty within both organisations to maintain quality, that organisational members lower in the hierarchy would have little impact. Thus status and organisational identity are important for issue sponsorship.

Similarly, location and role within the organisation are important, evident in the way in which structure diminished the ability of potential issue sponsors to promote river quality in Severn Trent (see 10.4.4). It is clear that PCOs' diminished ability to act as regulators was compounded by being absorbed into divisions. Their location emphasised interpersonal tensions within their necessary relationships and reduced their perceived power. This lack of integration with the organisation reduced confidence to promote river quality, thereby emphasising the need for managerial support for members lower in the organisational hierarchy. Location was also responsible for undermining the identity and role of the regulators. They could not exploit the gamekeeper-poacher contradiction of their role as Fred Lester had

managed because they lacked status. This supports Dutton's (1988a) proposition that sponsors' efforts are more likely to be successful if they are strategically located and have personal credibility. More significantly, the way in which the external and internal contexts colluded to weaken the function of the regulators, with subsequent impact upon their tasks and roles, supports the sedimented conception of management advocated by Tsoukas (1994). In this way, one sees the profound undermining of regulators' causal powers by political forces at the industry level.

The personal resources brought to bear in more favourable contexts have been variously: experience, expertise, honours, recognition, political connections, ambition and particularly, where new to the industry, systems relevant expertise (see 10.3.4). Both sponsors in Severn Trent set about gaining organisational interest and action by framing the issue in ways which reflected the organisational ideology at the time (see 10.3.3; 10.3.4). This ability to frame the issue in congruence with the current or emerging organisational context, would underpin all sponsor actions and subsequent issue relevant activity. Linking the issue with ideology is important in legitimising organisational interest and involvement with the issue (Aldrich, 1979).

Various actions undertaken by Lester emphasised the immediacy of river quality, thereby capitalising on its latent causal powers of pollution. Also, the presentation of information or arguments in relation to the issue was strengthened by the use of drama (see 10.3.3), emotion and passion (see 10.3.4) on the part of sponsors. In particular the use of ideological rhetoric highlighted the advantages of linking strategic issues with potent ideologies to lend them elan and drama (Meyer, 1982). In this way, the significance of language and the imagery it evokes cannot be underestimated (Pettigrew, 1979; Pondy and Mitroff, 1979; Meyer, 1982; Pfeffer, 1981; Whipp et al 1989). This implies that part of the skill or resources of issue sponsors lies in both the intellectual capacity to frame issues in congruence with the organisational context and the creative ability to present and argue for the issue. This supports the early work of

Barnard (1938) and Simon (1948), both of whom envisaged the job of the chief executive as one of managing the organisational context of the firm.

Legitimising organisational involvement through issue related activities is also important for their recursive power of reinforcement. The Water Quality reports served to underline the necessity for and importance of, a regulation function in the organisation. The regulatory activities themselves maintained the salience of the issue and reinforced the regulation function (see 10.3.3). Similarly, the management accountability emphasised during commercialisation (see 10.3.4) legitimised action by giving managers a sense of control over the issue and linking it to the new ethos. In this way, the structure of regulation was present in its effect, that is, produced and reproduced through the legitimate activities and necessary relationships of the organisation (Bhaskar, 1978). This supports Pettigrew's (1985a) expression of strategy as ultimately a product of a legitimisation process.

The issue sponsors were perhaps most effective in commanding organisational action where they could exploit the contradictions between the rules and resources of issue related activities, or those imported from other systems, to direct those activities (Whittington, 1992). Lester had maintained an audit role within the authority in separating regulation from operational activities. He exploited the internal contradictory rules and resources to advantage. However, this role became diluted with structural change and on his retirement, allowing the organisation to distance itself from river quality. Bellak, however, in importing capitalist logics and the NPM ethos to defend the maintenance of standards, was exposing the internal contradictions at the same time as importing new structural rules. This lends support to Sewell's (1992) contention that an important property of structure lies in the transposability of its rules. That is, Bellak could apply the rules of a new ideology to the context of regulation. The policy of organisation-wide responsibility for the issue defied the old style system logics, as did challenging Treasury decisions. Now all organisational

members were engaged in reproducing the structural effects of regulation as part of the new ideology. In this way, Bellak demonstrated Whittington's (1992) greater sense of agency.

The contrast between the two case studies demonstrates the importance of managerial choice in attending to strategic issues and strategy making. Given the same external environment and access to resources, the actions of management were a clear expression of preference in whether or not they attended to the issue of river quality. Non-action on the part of Thames during integration diminished the importance of river quality and invited the authority to ignore the issue. Later, Roy Watts made a deliberate choice to focus management time and resources on issues congruent with his own vision of commercialisation. Where Bellak chose to integrate river quality with the emerging ideology, Watts chose to ignore the issue, thus demonstrating the way in which the properties of structure may be open to different interpretions (Sewell, 1992). Timing may also be seen as an important aspect of sponsorship. Bellak appeared at a critical time in the organisation and when environmentalism was gaining in importance externally. Watts however chose to ignore internal and external signals about river quality with subsequent deteriorations in quality.

From a realist perspective, the three separate domains of reality - real, actual and empirical - create a distinction between causal powers and patterns of events. This implies that the former may be out of phase with the latter and it is up to human agency to construct the conditions of closure so that the domains of the real and actual can be fitted together and thus for causal powers to give rise to patterns of events (Tsoukas, 1994). Similarly, when events have not yet been detected and thus the transition from the actual to the empirical domain has not yet been made, human agency is required to identify correctly and transform events into experiences (Bhaskar, 1978). In the case of Thames, river quality deteriorated (events) but failed to be identified by management before it was made empirical by the publication of the

1985 and 1990 surveys. It was therefore incumbent upon management to be alert to the mechanisms of regulation inherent in IRBM and to utilise them in order to maximise their effects. Instead Watts chose to exercise his causal powers of control, efficiency and effectiveness to achieve commercial rather than environmental ends. This illustrates that although crucial contingencies may be similar for organisations, managers have a range of strategies to choose from in response to those contingencies. The shift from the public sector to commercialism provided the water authorities with a new ideology which was nevertheless open to varied interpretations.

Thus non-decision making about strategic issues is as important a managerial process as issue sponsorship. For where organisational leaders have a vision which does not incorporate a particular strategic issue, they may well shape the organisational context in a manner not conducive to its recognition. In this way Thames' preoccupation with privatisation and commercial ventures occupied management away from internal issues in a campaign against the government. As Richardson and Jordan (1979) argue: *Power is involved in the definition of issues. The definition of alternatives is the choice of conflicts and the choice of conflicts allocates power. One conflict can be used to displace another, perhaps more important conflict.* This account of issue sponsorship supports the notion of agency as constituent of structure (Sewell, 1992). Sponsors must be capable of exerting a degree of control over the necessary relations within which they are enmeshed. They are empowered by structures which provide the rules and resources for action. It is incumbent upon sponsors to be knowledgable about the rules of structure in order to apply them in new contexts: that is, to bring about the conditions of organisational quasi-closure which will enable generative mechanisms to produce desired effects (Tsoukas, 1994). Agency, then, arises from the agent's control of resources (Pettigrew, 1987). More specifically, it involves the ability on the part of sponsors to acquire resources for issue related activity by employing organisational rules in alternative ways, or importing rules from other intersecting structures. As Sewell (1992:20) writes, it is: *the capacity to reinterpret or*

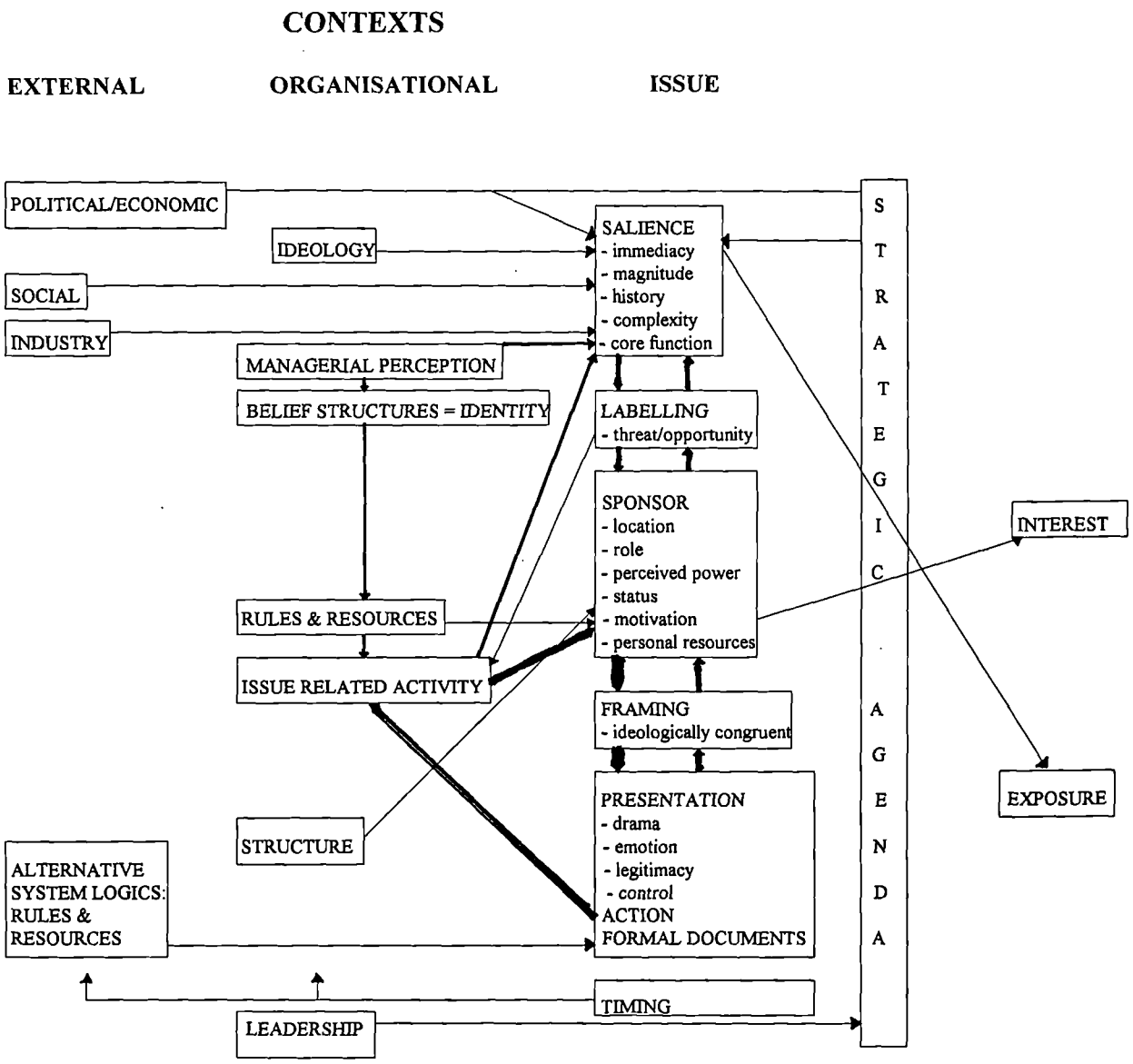
mobilise an array of resources in terms of schemas (rules) *other than those constituted in the array.*

10.6 Conclusions

Analysis of the trajectory of river quality in the two case studies has provided analytically valuable insights into the agenda building process. The resulting model is depicted diagrammatically in fig 10.4 and contrasted with Dutton's (1988a) model (fig 10.5). The chief difference between them lies in the positivist orientation of Dutton's model in contrast with the realist premise underling the application of structuration theory here. This has resulted in a model emphasising process rather than prediction and where causal links are less important than significant relationships. A process view recognises the complexity of organisational interactions and relationships, where causal links are often two-way and feedback over time: so that the emphasis here was in isolating those organisational variables with the potential to make a difference. The Realist perspective does not assume the production of effects but emphasises generative mechanisms which must be activated to produce organisational outcomes. Also, the empirical grounding of this study, in the trajectory of one strategic issue over time, has given greater credence to the findings than conclusions drawn purely from a collection of isolated and theoretically diverse studies.

This study has extended the horizontal and vertical levels of analysis by the long term tracking of the trajectory of a strategic issue. This has addressed the limitations of Dutton's model which located phenomena solely at the organisational level. The model therefore includes the external context as an important dimension. Further, the parameters and interrelations of the organisational and issue contexts have been explored in depth: thereby adding to the complexity of the original Dutton model. The principal contexts were researched simultaneously while their separate analysis was justified on the basis of their differing temporality, dynamism, sphere of influence and

modality of structures (see 10.5.1). These dimensions were seen to have implications for the history of an issue and the complexity and power of structures from which sponsors may draw their agency. Nevertheless, the three principal contexts are tightly interwoven and interdependent over time, so that to talk of one context is to also make implicit reference to the other two.



KEY: ≡≡ Feedback Loops

Fig 10.4 Processes of Strategic Agenda Building

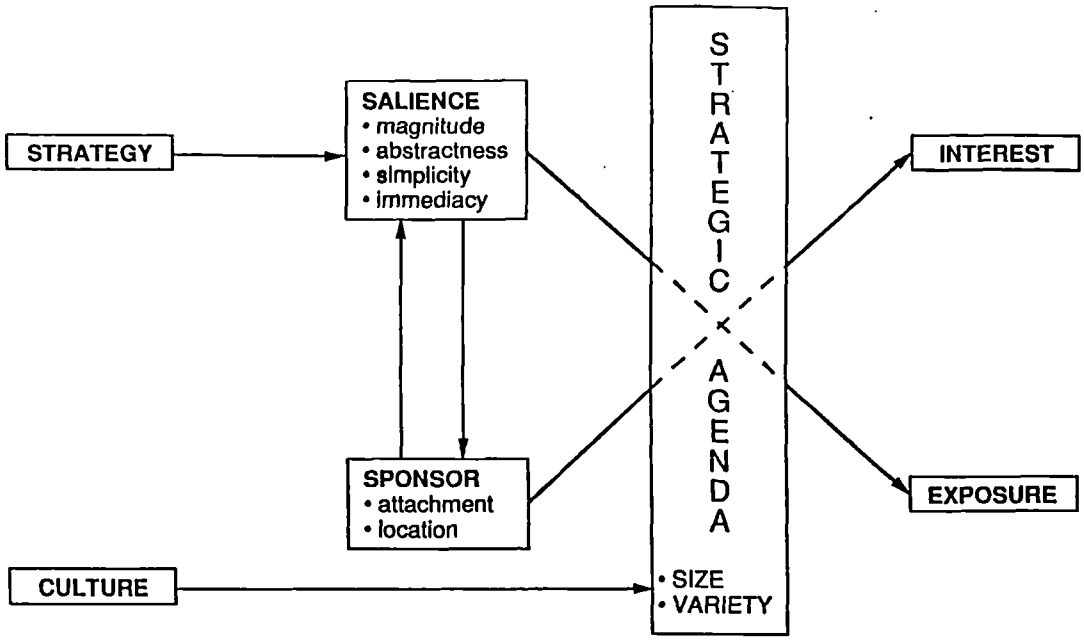


Fig 10.5 Dutton's (1988a) Agenda Building Model

The addition of the external context at both macro and industry levels is seen to influence both issue salience and the content of the strategic agenda. The external context serves to broaden the dimensions or content of a strategic issue and indicates its relationship to other issues: thereby enlarging the array of structural influences and their intersection which endow an issue with particular meaning for organisational members. In this way the external context may be seen to be implicated in organisational change via its influence upon issue salience. Thus the external context not only influences the configuration of organisational structure but is also the source of a range of alternative social structures upon which issue sponsors may draw for action (Whittington, 1992).

The organisational context was largely untheorised in Dutton's model and the links to the issue context underdeveloped. Here it has been extended to include the forces of ideology and structure as these respectively influence issue salience and the ability of the sponsor to act on behalf of an issue. Central to the organisation context are the links between managerial perceptions, organisational identity, and the rules and

resources made available for issue related activities. Issue salience has been shown to influence management perceptions while issue related activity may in turn influence issue salience thereby providing a feedback loop. This reinforcement process may be managed by issue sponsors, either in accordance with the rules and resources or in exploiting their contradictions: thereby legitimising organisational involvement. Thus management plays its most important role by managing the context in which strategic processes unfold (Bower, 1970; Bower & Doz, 1979; Burgelman, 1983a, 1983b).

The complexity of the strategic agenda process necessitates going beyond decision making to include inertia and non-decision making. Here the inclusion of leadership is vital, as strong leaders may re-direct attentional resources onto other issues. Their impact on the strategic agenda to fulfil their own strategic vision is a powerful force in ignoring strategic issues and /or countervailing the actions of issue sponsors. In this way the model accounts for the forces for issue suppression and acknowledges the vital factors of status and role underlying agency in organisations. This study has limited itself to the trajectory of one strategic issue and as such, the strategic agenda is relatively unexplored. What may be discerned, is the influence of the external environment on agenda content, and the way in which the agenda may impact on the salience of an issue. In linking strategic issues to other agenda items, their salience may be enhanced or diminished.

Dutton's model is most deficient in its account of managerial agency where sponsors are restricted to the organisational and issue contexts. This has been redressed by considering the influence of a wider set of contexts and in elaborating on sponsor actions. The issue context is most developed as it provided the most opportunities for an analysis of managerial agency. The salience dimensions have been extended to include those particularly pertinent to river quality: historical association with the issue and core function. Sponsor attributes, too, have been enlarged to consider not only resources derived from the organisational context, such as motivation and

perceived power but also personal resources. The ability and motivation of an individual to promote issues will be dependent upon their perceived power within the organisation.

The important activities undertaken by sponsors involved managing the organisational context. This was attained by labelling the issue in ways which enhanced its salience thereby providing another feedback loop. Framing the issue in ideologically congruent ways was also very important in motivating organisational action. This was particularly relevant to the way in which the issue was presented or packaged for organisational attention. The most powerful actions for sustained interest and organisational response were where sponsors exploited the structural properties of issue related activities, or employed rules and resources from external systems. In influencing issue related activities in this way, a reinforcing effect was created which enhanced the motivations of sponsors to continue in their activities. Finally, the notion of timing is seen as an important prerequisite for maximum impact. Sponsors most effectively promote issues when the organisational context is most receptive and when they can align the organisation in response to environmental signals about the issue. The capacity for agency therefore requires highly analytical and creative resources on the part of sponsors.

To return to the questions posed in chapter two and in the introduction of this chapter: different organisations attend to different strategic issues due to the influence of ideology, organisational identity, the content of their strategic agenda, leadership bias on managerial perceptions and their structural arrangements which influence the personal resources of sponsors. A crucial difference between organisations in this model is the fact that different managers have differential access to structural resources and indeed, different interpretations of the same structures. Within the same organisation, different issues command different amounts of attentional resources due

to the salience of the issue, the capability of issue sponsors to act on their behalf and to oppose countervailing forces of issue suppression.

This process model of strategic agenda building is underpinned by a structurationist conception of organisational reality. It has resulted in a more complex yet holistic model where links between variables are not so much causal as relationships with potential for effect: that is, dependent upon the actions of agents to bring about desired ends. Three feedback loops are to be found, two between the issue and organisational contexts and one within the issue context. The first is between sponsor actions regarding issue related activities, salience of the issue and managerial perceptions which condition their further response to issue related activities. The second is between sponsor actions, issue related activity and sponsor motivation. The third is between salience, sponsor actions and enhanced salience. All suggest the reinforcing power of structure, that is, the necessary relations which comprise its configuration. While the links from and into the external context demonstrate the vulnerability of structures to change from the intersection of others.

The most important contribution of this model lies in conceptualising a dynamic model of agenda building whereby multiple contexts intercept and evolve over time. The action dimension has been explored utilising structuration theory to account for the power of agency and how it achieves its effects. Structuration has shown that managers are endowed with the power of agency by their personal resources and necessary relationships within the organisation structure and elsewhere. To achieve desired ends, managers must create the necessary conditions which bring generative mechanisms or potentialities from the domain of the real into the empirical domain. This is made possible by the ability of managers to understand and utilise relevant structural properties. That is, managers must be alert to the taken for granted, routinised systems and relations within their organisations and be able to articulate their properties, if they are to effect change. Further, by implication, management is

most successful at bringing about desired ends when they have access to a multitude of structural rules and resources for inspiration and the capabilities to take advantage of their potential causal powers.

11. CONCLUSIONS AND IMPLICATIONS

11.1 Introduction

In this the last chapter, the findings of this study are brought together and the objectives of the research assessed. Next, the strengths and limitations are considered and the implications for future research. The chapter concludes on the implications for the practice of managing organisational change.

11.2 Structure, Process and Performance

This section considers the insights which the use of structuration theory and findings on the processes of strategic agenda building can lend to fulfilling the objectives outlined in chapter one. These were to contribute to an understanding of the relationships between a firm's administrative systems, decision processes and competitive position; secondly, how the organisation can maintain effectiveness in the above relationships and third, how an organisation modifies its administrative systems and decision processes in response to environmental change and through its own proactive actions. This research suggests that the key relationships of the firm are influenced by its contextual reality and the modality of its structure, or the power relationships arising from the necessary interactions of agents which are contingent upon the structural properties of the organisation. Effectiveness may be ascertained by agents' management of the causal powers of the organisation, that is, their ability to bring about organisational outcomes by constructing the conditions of closure which enable those causal powers inherent within the organisational structure to give rise to desired patterns of events and experiences. Finally, incremental organisational change requires sufficiently transposable rules, or flexible logics of action inherent in its structure to adapt to an evolving context: while transformational change owes as much to the agential powers of managers as their ability to execute them.

11.2.1 contextual reality

The use of structuration theory has provided a holistic account of organisations in interaction with their environments. Here organisations are conceived of as structural entities, influenced by wider structures yet devising their own unique structural properties in response to their individual circumstances. Thus organisations are seen as potentially complex and changing, having therefore the possibility of a variety of structural forms.

The process model of strategic agenda building not only clarifies some important organisational relationships but also includes some important external ones. In this way organisations are conceived as existing within a multi contextual reality. Here contexts are distinguished by four key dimensions characteristic of their structures: temporality, dynamism, sphere of influence and modality. These key dimensions have implications for the depth and breadth of influence by structures and hence their potential power in relation to other structures. The history of structural effects influences managerial perceptions and expectations, thereby conditioning decision processes. The durability of structures will in turn contribute to their history and has implications for their power of influence. The sphere of influence will be important in decision making, as for instance when responding to actions from the wider environment, it is often necessary to engage with a diverse set of intersecting structures. This was evident when Thames had to engage public sympathy as part of their challenge to government price rises. The differing modality of structures within each context ensures a complex and diverse configuration of power relationships at each level with the potential for differing effects. For example, campaigners within an environmental organisation experience rather different relationships with each other and in relation to an issue like river quality, which commands centrality and importance for their organisation, from the relationships which PCOs experienced when working for the case study organisations in the 1980s.

That an organisation's structure owes something of its configuration to the industry and the wider social context, of which it is a part, has been demonstrated in the account of the origins of ideology in the water industry (9.2). The ideological basis of the case study organisations was shown to derive in good measure from the industry context and its historical development. The way in which ideology conveys rules and resources from wider, more enduring and powerful structures accounts for its potency as a legitimising force and role in organisational stasis and change. Similarly, the external context was shown to shape managerial perceptions through its impact on issue salience and the content of the strategic agenda. This has been evident in the political influence on the strategic agenda of the water companies. Time too is important, as the influence of organisational history on issue salience has demonstrated. At industry and social levels then, a range of structural forms provide rules and resources for managerial inspiration and choice. In consequence, decision processes are conditioned by wider structures over time and in response to changes in the environment.

The overlapping and intersecting nature of structures in each context provides for contradictory or ambivalent rules and resources by which managers have the scope for choice. However structures also have a constraining effect, as when a constellation of structural forms over time evolves into an ideology. The subsequent belief system delimits the rules and resources for action and hence choice. It is part of management's role to understand the pattern of relevant structural intersections, those which are habitually drawn upon and those potential structures left dormant, and to make their judgements accordingly. This will in large part be conditioned by their knowledge of the temporality, dynamism, sphere of influence and configuration of power relationships within any one structure. For instance, this knowledge was crucial in introducing commercialisation into the case study organisations, where new managers realised the effects of a long history within the public sector, the prevailing inertia of their cultures, their inward looking nature

and hence limited sphere of influence and the dominance of the divisional form with decentralised power relations. All called for restructuring, the use of delegation instruments, notions of fast track and empowerment, to counter what was perceived as a public sector way of operating, here described as the PH ideology.

11.2.2 modality of structure

Organisations' structural configurations were seen to be comprised of necessary relationships, or interactions of organisational members, contingent upon the properties of structure (Tsoukas, 1994). These interactions represent power relationships based upon organisational rules and resources. The unique configurations of organisations are seen to derive from their history, development pattern, and the unique interpretations of structures by the individuals which work in them.

The new and developed agenda building model (Fig 10.5) suggests the importance of ideology, organisational identity, structural form, leadership (individuals) and the strategic agenda, upon managerial perceptions which condition the amount of attentional resources allocated to an issue. Thus decision making is based on a confluence of factors which comprise different aspects of organisational structure and interaction. Ideology at the metalevel influences the overall values, beliefs and management style of the organisation. Organisation identity as a subset of the above plays an important part in influencing the choice of issues to respond to and so framing beliefs about action. The strategic agenda comprises the portfolio of organisational concerns which influences the uptake of new concerns and decisions about existing ones. The administrative system in this way conditions the perception of agents and potential agents within the system: although leaders and strong individuals may impose their own bias upon decisions, either in line with or different from, established practices. All these organisational relationships thus far discussed are potential rather than causal. That is, they are contingent upon the

properties of the structure (Tsoukas, 1994). In this way, these relations will hold good until either the rules or resources change: as for instance occurred within Severn Trent when they changed their regulatory activity from an audit function to a quality issue involving all organisational members, thereby initiating action on effluent and river quality.

The discussion on ideology highlighted the importance of organisational form, process and work practices as reinforcing mechanisms for organisational structure. The three feedback loops of the agenda building model all confirm the reinforcing power of structure, that is, that necessary relations legitimise the structural properties which govern their configuration. In this way, structure is present in its effects, thereby confirming the dual nature of structure (Giddens, 1976, 1979, 1981, 1984). This explains the power of routinised behaviour and relationships within organisations, particularly where the structural rules are deep, or, unconscious and implicit (Sewell, 1992). It is because these relations produce desired organisational outcomes that the structural properties are reaffirmed and re-chosen by agents (consciously or unconsciously) and the structure is perpetuated. It is the ability of structures to condition interpretations of desired outcomes by organisational members that accounts for why economic rationalities do not always prevail (Whittington, 1992). For instance, the preservation of work practices by the predecessor bodies in divisional form was counter productive to IRBM.

Thus process reinforces or subverts structure by virtue of the outcomes it generates. The particular causal capabilities of structures may or may not be realised due to the abilities of organisational members to put the rules into practice by managing the organisational context. The water authorities were unsuccessful at integration because they did not utilise the inherent rules of IRBM. Furthermore, the intersection of external structures with the organisation may also act to jeopardise the realisation of structure, as did the political system in undermining the regulating

authority of the water authorities. Structure is therefore dependent upon internal processes and external relationships for its continuation and to realise its potential. Therefore management must manage not only organisational processes but also the organisation in the context of its wider relationships.

The structural conception of organisations explains the basic relationship between an organisation's administrative systems, decision processes and performance. This is illustrated in fig 11.1, where the organisational structure 1 (administrative systems) is realised by the management of process (decision making) to produce a performance outcome. Where the desired outcome occurs, the structure is perpetuated and where it fails, changes to the structure are made such that new properties are instituted in a modified structure 2. This may occur through several alliterations until a desired structure 3 (indicated by performance) is attained. In this way, accounting for the bias towards incremental change within organisations.

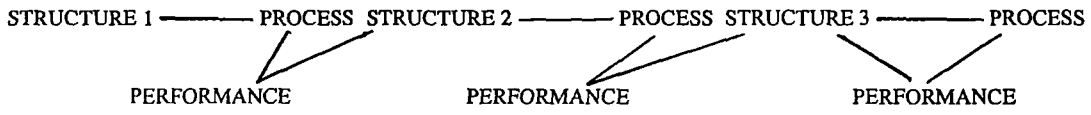


Fig 11.1 Relationship between Structure, Process and Performance

For instance, the case study organisations both went through several structural changes during commercialisation: first reducing the number of divisions, then expanding the operating units with increasing centralisation and rationalisation of support services. This continued until privatisation when desired levels of efficiency and effectiveness, as evidenced by performance outcomes became evident. Conversely, where poor performance outcomes are ignored, as in Thames, the legitimacy of the structure may be weakened by subsequent events (COPA II, Privatisation) in response to and tangentially related to the poor performance: thus

allowing the importation of radically new properties and instituting major organisational change.

This relationship between structure, process and performance, leads to the second general question about maintaining organisational effectiveness. Managers achieve and maintain effectiveness by the ability to make incremental changes or adjustments to organisational structure, when so indicated by performance. By being constantly alert to changes or short-comings in performance, managers may make structural modifications in advance of substantial deteriorations. It is also incumbent upon management to understand the potential of the organisational structure (ie the causal powers of the administrative system). Both Lester and Bellak recognised the contradictory status of regulation within the authority given their relationship with government. Where one sought to work within the system's rules, the other introduced new rules into the organisation. But the potential to maintain river quality and self regulate was limited in the public sector. Thus managers must be aware of both the potential and limitations of their administrative systems when undertaking modifications.

Moreover, the organisational configuration must be managed. The empirical reality of the administrative causal powers is only made possible by the agency of managers, who having correctly recognised the potential of the system, are able to fit the domains of the real and actual together and subsequently turn events into experiences (Tsoukas, 1994). We have seen that this contingent accomplishment (Outhwaite, 1983, 1987) owes as much to an understanding of the organisation's contextual reality as to its own internal causal capabilities and this must be conveyed to organisational members. In this respect, the purpose of ideology is to convey, via values, beliefs, management styles and the social context of the organisation, the implicit rules of the structure.

Additionally, the structural rules so conveyed must be congruent with the ongoing organisational practices, in the sense that the practice must be a true interpretation of the properties of the system if organisational members are to adequately perform their roles and tasks. The condoned flouting of the regulatory rules by the water authorities served to undermine the role of pollution control officers and led to poor task accomplishment. Thus management must be capable of implementing processes consistent with structure. This involves the ability to convey the intended meaning of the structural properties, that all organisational members might understand and participate accordingly.

11.2.3 managerial agency and change

The modification of administrative systems and decision processes in response to environmental change is shown to be conditioned by the transposability of an organisation's rules, or ideological malleability to changing environmental circumstances (Sewell, 1992). This study has demonstrated how an organisational ideology may be relatively impervious to environmental contingencies, but that this will only endure until the organisation becomes untenable in the face of wider contextual realities. Similarly, organisational change which does not create a viable entity will itself be vulnerable to further changes as the water authorities were to privatisation. The commercial ethos imported into the authorities did not of its own create a structure which was free from the inherent contradictions of the previous era. Nationalisation merely harnessed the authorities closer to Whitehall and intensified their ambiguous status.

The discussion on changing ideology in the water authorities and the promotion of strategic issues demonstrate the leverage to be gained from exploiting the contradictions between internal structural properties and between those properties of the organisation and of external structures with which it is intimately engaged (Whittington, 1992). The internal contradictions of the water authorities were made

more acute by political change in the wider environment after 1979. In the absence of reform from inside the system, these organisations were vulnerable to change from outsiders, as occurred when Bellak challenged regulation practices with alternative systems logics. In this way, social structures are significant because they make a difference to strategic choice.

.

It has already been argued that management is empowered by the set of necessary relations of which it is a part (Tsoukas, 1994). Additionally, managers bring to the organisation personal resources of a psychological and experiential nature. Different managers have different access to structural resources and different interpretations of the same structures. The difference between what leaders chose to focus on in Severn Trent and Thames illustrates this plurality of interpretations. The status of managers within organisations is conferred by what they bring, their location in the organisation, their role and their identity in that role.

The most potent force for action on behalf of strategic issues was where sponsors framed issues in ways which emphasised the dominant or emerging ideology of the organisation. By framing and labelling issues in a way which has a resonance with the property of the structure, managers could capitalise on
their causal powers: in particular where they could exploit the structural properties of issue related activities, as for instance, when Severn Trent gave a bonus to all managers whose sewage works complied. In this way they sustained the new rules with complementary resources. This was particularly powerful when explicitly linked to organisational ideology. In the same way that ideology has powerful reinforcing and constraining effects, so too can it be powerful in mobilising alternative actions and change. Old issues could be promoted in the cause of a new ideology, thus indicating that a powerful route to change might be to repackage familiar issues in new rules and resources. In this way, managers act to legitimise organisational involvement in action (Pettigrew, 1985a).

However, managers cannot be complacent about their organisation but must be alert to the vulnerability of structure as links from and into the external context provide the potential for change. In this way managers may be seen to have a choice of rules and resources internal and external to the organisation. Here the access to alternative structural properties is a key resource of agency. Choice is then dependent upon the difference between what managers seek and what they can realise (Whittington, 1988). They must be aware of the limitations of structure and of their own agency in constructing mechanisms which will render the appearance of certain sets of effects possible (Tsoukas, 1994). Roy Watts had to retreat from his second challenge to government over the rivers as it was politically and legally untenable. Further, managerial choice is complicated by the internal contradictions of structures which managers may manipulate, thereby extending choice. Also the intersections of structures present managers with a range of constraints and resources from which to pick and choose (Whittington, 1988).

The intersection of structures also means structures may overwhelm or cancel out other structures thereby preventing change. The failure of integration for the water authorities was due to the dominant PH ideology, particularly residing in the divisions which overshadowed IRBM. The new structure did not have the history, psychological commitment or legitimacy to assert itself. Regionalisation was represented by corporate management at the centre who lacked alternative structural properties in support of IRBM. Its non-execution was in large part due to the early history of the organisations.

In summary, it is the very ordering of structures which confers the ability to generate transformations. The 5 key axioms proposed by Sewell (1992) (2.1.3) were borne out by the findings of this research. Conflicting claims and empowerments within the water authorities, and between industry and government, afforded a complex and diverse range of different and even incompatible rules and resources in

a multiplicity of structures, thereby providing opportunities for choice. Inherent in the knowledge of organisational structure is the ability to transpose rules, the effectiveness of which was seen to be determined by managers' access to multiple structures. Limited access to alternative structures in many respects accounted for the failure of the integration period. Structures were seen to depend for their continuation upon their reinforcement by resources. Here the demise of the regulation function within the authority can be accounted for by a continuing spiral of lack of resources and rule fudging, leading to diminished organisational legitimacy: in this way demonstrating how the unpredictability of resource accumulations might lead to structural modification.

Sewell's definition of agency as the capacity to transpose and extend schemas to new contexts makes inherent the ambiguity of resources. Given their multiple meanings, resources are capable of empowering different actors and teaching different schemas. This (re)interpretation of resources in another context is an important skill in organisational change. This is made possible by the intersection and overlap of structures. By far the greatest skill was the ability by managers to exploit the intersection of structures. This ability to claim and mobilise different resources in different contexts, and transpose rules from one structure to another, was seen in the commercialisation of the water authorities.

11.3 Limitations and Contributions of this Research

A critical examination of this research has shown weaknesses in research design, data set and type, the reliance on a single model and limited variable analysis. This research can, however, make claims for the veracity of its findings due to its holistic, contextualist approach and comparative case study method which has added to the agenda and attentions field: while the employment of structuration theory from a Realist perspective has given insights into the relations between context,

process and action. This is also one of the very few attempts to empirically operationalise and interpret the Giddens and Sewell positions on structuration and agency.

11.3.1 limitations

The research design has several inherent limitations. For instance, this study has only focused on one industry which has shown particularly close relationships with the external political context. The comparability with other public sector industries and particularly the private sector is therefore open to question and would necessitate comparative research. Further, only two organisations were studied of a possible ten in the industry. Although their choice as a matched pair is explained (3.7.4), they were notably similar in retaining large predecessor bodies as divisions during integration. Their ideological entrenchment may well have been more pronounced than within other water authorities and so represent extreme types. Equally, the focus on a single issue has limitations for the study of change (Pettigrew et al, 1992): although this has been somewhat mitigated by efforts here to show the issue in the context of a wider change arena, exploring interrelated agenda issues and the historical evolution of the issue. Therefore what has been achieved in depth is lacking in the breadth required for comparability with other enterprises in other sectors.

The interview data itself have largely been confined to managers accounts, although these were chosen for their involvement in change and proximity to action. Also many had long histories within the organisations useful to this research and had been junior members of their organisations previously. However, a shortfall has to be the lack of contributions from workers lower in the hierarchy who could verify the changes since privatisation. Also, the lack of time and restrictions of access, due to a preoccupation with industrial secrecy precluded any observational data. A further criticism might be that the number of respondents, 40 in all, was too small

for such an in-depth study. This would be a cause for concern where there were widely differing views but it is acknowledged that any less would have been problematic.

The reliance on one model may also be considered a weakness as it channels the researcher to focus on a set of pre-determined factors which may obscure more important ones. Here too, several factors emphasised in Dutton's (1988a) model were not included within the scope of this study. First the content of the strategic agenda of the case study organisations over 20 years was not explicitly analysed. In relation to this last, Dutton's hypothesis on the links between the size and variety of the agenda and organisational culture was considered beyond the scope of this research. Additionally, the influence of strategy on the agenda building process was not a primary focus. All these factors may be considered significant omissions and the subject of further research.

11.3.2 analytical contribution

This study has sought to right the balance of much work which has been described as ahistorical, aprocessual and acontextual in character (Pettigrew, 1985b). Therefore a study of development and change has been conducted that allows the change process to reveal itself in a substantially temporal and contextual manner. In exploring organisational development over 20 years in the context of an industry history over a century, the study gains a richness of meaning not possible with single change event studies or a set of contextually discrete episodes. This research has sought to trace out the developmental process to its historical antecedents and to locate change eras in the context of wider social structures. The findings have sought to explain the mechanisms and processes by which change and inertia are created within a multi-contextual reality and in this way this research has been concerned with the holistic and dynamic analysis of changing.

A contextualist approach has been used which is underpinned by five main principles (Pettigrew, 1990a, 1992): (1) the importance of embeddedness, implying a need to study change in the context of interconnected levels of analysis; (2) the importance of temporal interconnectedness, with the need to locate change in the past, present and future time; (3) the need to explore content and action and how one is implicated in the other is crucial; (4) the central assumption about causation in this kind of holistic analysis is that causation of change is neither linear nor singular. The goal has been to identify the variety of influences on change and inertia and explore through time some of the conditions and contexts under which these influences occur. Finally (5) there has been an explicit attempt to link process analysis to the location and explanation of outcomes.

The fifth principle determined the choice of a comparative case study to engage the question of `performance' on a strategic issue. This has forced a compare and contrast analysis, with the result that shared patterns of development and process between the two organisations gave rise to the notion of the sector and organisational ideology implicated in the development process: while contrasting the cases was used as the basis for theory building on processes underlying strategic agenda building. The contrasting inner contexts of the organisations permitted differentiating between organisational responsiveness to the issue context, and so highlighted the importance of history, content of the strategic agenda, leadership bias and management perceptions.

The contextualist theory of method has been used to extend and develop Dutton's (1988a) model of strategic agenda building to include sector and social contexts at the macro level and their relationship with internal processes of patterned activity at the micro level. In this way, process and context have been introduced into the agendas and attention area which has hitherto been characterised by contextually isolated and episodic studies (Huff & Reger, 1987). This study has also made a case

for the analytical distinctiveness of contexts which has been based on incorporating the key concepts of this research (time, change, power and structures) in this way refining further Sewell's structural dimensions of depth and power. This has allowed contexts to claim a distinct role in organisational life while recognising their interdependence.

The emphasis on process has meant conducting an in-depth study which has resulted in a model showing complex relational links. Those factors and relationships which have emerged have been identified as those with the capacity to make a difference to process. The emphasis on time has involved the tracking of a strategic issue over 20 years and in relation to the historical context of the sector over a much longer time, thereby demonstrating the cumulative effect of historical association and meaning on organisational processes. In terms of temporal analysis, the punctuated equilibrium theory (Tushman & Romanelli, 1985) has proved useful in explaining conjunctions of events, discriminating between phases or eras at the sector and organisational levels and distinguishing between high and low levels of change. This lent a more dynamic and historically informed model of organisations (Kimberly and Miles, 1980). The theory also revealed a bias towards temporal determinism in the assumption that change periods are of briefer duration than periods of continuity. For instance, Quinn (1980) has highlighted that large-scale change in major organisations may be prolonged and protracted. This finding was the pointer to an interesting property of structure, that is, its vulnerability to further change following incomplete or ambiguous change.

Organisational transition processes are an important topic of study as revealed in this research. The emergence and early development of the water authorities and transformation from public to private sector represent distinct chapters, with periods of transition in between. The emergence of the authorities was a transition phase from the predecessor organisations, and a period of drift followed where there was

a gap between the ideals as originally conceived via IRBM in the water industry and the organisations as enacted (Lodahl and Mitchell, 1980). The punctuated equilibrium theory with its theoretical links to other disciplines of study such as human development (Gersick, 1991) has similarities with the tracing of organisational biography (Kimberly, 1987): an approach which Pettigrew, et al (1992) view as shaped by a series of strategic decisions that unfold.

The use of structuration theory (Giddens, 1979) and of Sewell's development of Giddens, has provided explanatory force for relations between organisations and contexts and its dual nature revealed insights into the relationship between action and context. The contribution has been to operationalise and apply these very abstract ideas. By conceptualising organisational context in terms of structure, and ideology as both an implicit and explicit harbinger of its rules, it has been demonstrated how action may reinforce structure by its effects. The notion of effects has been explained in terms of performance outcomes which act as organisational resources. The Realist perspective (Bhaskar, 1978) underpinning this research explains the potential of structural effects via the concept of generative mechanisms, which causal powers enable structural effects. That these effects are not necessarily realised allows the preservation of agency and prevents the domination of structure.

At the same time, the power of agents is explained by the notion of necessary relations. These are an important element of the rules of structure, in that their configuration comprises a modality of structure unique to each organisation, despite similar contextual influences. It is these necessary relations which impart the power of agency and which must be negotiated and engaged with in the agenda building process. Also, structuration demonstrates how managers access inspiration and ideas for sponsorship and acquire agency outside the immediate organisational

context. In this way the theoretical basis of this research has sought to provide a series of explanatory concepts linking structure (context), process, and action.

11.4 Implications for Future Research

The model of agenda building developed in this research has identified some important links between the external, organisational and issue contexts. There is now ample scope for broadening and developing these relationships. The issue context has highlighted the important salience dimensions but there is potential for further development in this area: for instance, how different conceptualisations of an issue (ie resource vs moral) may lend different force and interest for organisational members and how issue sponsors may align organisational members to a conceptualisation which lends an issue the greatest salience.

This research has explored an issue which was a core function of the organisations and hence the importance of manipulating the rules and resources of issue related activities. Future studies could usefully explore new and unfamiliar issues, particularly the process by which issue related activities are established and nurtured within organisations.

The role of sponsor has concerned very senior managers in this study and more research into the mobilisation of interest by lower level members is needed, together with the process by which coalitions of interest groups are galvanised by issue sponsors to promote and disseminate organisation wide interest in an issue. This would involve an examination of group politics and processes. This study has also shown how sponsorship can be suppressed by the role and structural location of sponsors. More work is required to understand how organisations might encourage sponsorship of strategic issues and innovative responses.

As discussed in the last section, more work on the nature of the strategic agenda is needed. Specifically how culture and or strategy may influence the size and variety of issues under attention.

In terms of the organisational context, this study has not looked at strategy, human resource programmes or technology for instance, all important features of modern organisations, in relation to the agenda building process. Similarly, the importance of organisational form in the agenda building process suggests the need for a comparative study on the relationship between the uptake and promotion of new issues and structure. How, for instance, might organisations develop a context which facilitates the capacity of individuals to promote issues, seek innovative solutions and participate in transformation and change?

Comparative studies of the external context are also suggested: for instance between sectors such as those experiencing decline versus growth. Also in terms of the relations between organisations and context, it would be useful to compare this study with a sector less dominated by the external political context. This might take the form of comparison between the public and private sectors. In the same vein is the question of the effect of organisational boundary activities on agenda building. For instance, are looser, networked organisations more open to new strategic issues?

The findings in relation to organisational change suggest some avenues for further research: for instance, more exploration into the nature of the transposability of structural rules which facilitate environmental adaption. More empirical support is required to develop Sewell's (1992) notion of depth and power as they apply to structural rules. So far Sewell has applied these concepts to language, nation states and capitalism and now concrete analysis of social and organisational change and reproduction is called for. In terms of contextual analysis more work is needed to

elaborate on the notions of temporality, dynamism, sphere of influence and modality of structures identified in this research. What systems and processes are required to grant an organisation greater flexibility without diluting their primary purpose? Further, what are the generic qualities of transposability which might be reflected in the values, beliefs and management styles of the organisation?

The cultural perspective of organisational change has been implicit throughout with the exploration of ideology (Pettigrew, 1979, 1985c). This raises issues of the representation of ideology expressed in symbolic terms through symbolism, language, belief and ritual. This study has only touched on the significance of language and drama in the promotion of river quality and Pettigrew, et al (1992) note that shifting language systems are themselves interesting objects of study, as they provide order and coherence, describe relationships and because of the politics of competing language systems. There is much more scope for exploring more fully the language of new ideologies, its role in change and the empowerment of agents.

11.5 Implications for the Management of Change

The importance of managerial perceptions and identity in providing a receptive organisational context for issue sponsorship is supported by work on change in the NHS by Pettigrew et al (1992) with its emphasis on receptive and non-receptive contexts for change. This study shares three of the eight findings considered important in the NHS study: the importance of sponsors as key people leading change, the influence of long term environmental pressure in triggering radical change, and finally, the notion of a supportive organisational culture is similar to the role of ideology in this study. The concept of a flexible culture emphasised by Pettigrew et al (1992) is echoed in the transposability of rules concept here.

The agenda building model has provided strong pointers to the requirements for issue sponsorship. The location and role of potential sponsors is key in terms of perceived power and motivation to act. Sponsors must be strategically located, both structurally and with access to knowledge. The importance of role also highlights the need for integration with the organisation and the requirement for management support in promoting issues.

Sponsors must be equipped personally for the challenge of change management. This means an analytical capacity for understanding the subtleties of organisational ideology and the ability to convey issue information in those terms. Further, good judgement is required to assess which external structures to access and which to leave dormant. Ultimately, the potential of the prevailing structure must be understood when making decisions about the type of change, for instance incremental versus transformational. Also necessary is a creative ability to utilise cultural artefacts such as language and imagery which finds a resonance with the prevailing belief system. Related to this is the ability to package or reinterpret issues in terms of alternative structural rules and resources which have meaning for the organisation. This last implies agents with a greater access to alternative structures outside the system have far more resources to call upon in change management. Managing the context of the firm is thus both an analytical and creative exercise.

Receptive organisational contexts in this study were found to be those with flexible ideologies expressed as having transposable rules. Also receptiveness was found to be related to organisational identity, the character of which was influenced by history and early developments. That successful issue selling is linked to ideological congruence has similarities with Pettigrew and Whipp's (1991) notion of coherence in the management of change. This is the same way that the removal of local

authority Boards from the water authorities allowed a more unitary sense of purpose and belief among senior management and paved the way for commercialisation.

Another important feature of the organisational context for change is the ability to link issues to task related activities. This reflects Pettigrew and Whipp's (1991) findings on the importance of linking strategic and operational change. In Severn Trent putting works managers on a bonus for achieving compliance was a crucial step in harnessing vested interests at lower levels.

Finally, for change to stick, the organisational processes which are implemented must reflect the formal rules of the new structure. This depends in large measure upon organisational coherence and the ability to manage the new processes.

REFERENCES

Abegglen, JC (1958) *The Japanese factory*. Glencoe, ILL: Free Press.

Ackerman, LD (1984) The psychology of corporation: How identity influences business. *Journal of Business Strategy*, 5,1: 56-65.

Agg, AR; Zabel, TF (1986) Trends in water pollution and control. *The Institute of Water Pollution Control,* Paper No 14, Annual Conference, Birmingham, 8-11 Sept.

Aldrich, H (1979) *Organizations and environments*. Englewood Cliffs, NJ: Prentice Hall.

Aldrich, H (1987) New paradigms for old: The population perspective's contribution to health services research. *Medical Care Review*, 44: 257-77.

Allaire, Y; Firsirotu ME (1984) Theories of organizational culture. *Organization Studies*, 5: 193-226.

Alvesson, M (1990) Organization: From substance to image? *Organization Studies,* 11: 373-94.

Alvesson, M (1991) Organizational symbolism and ideology. *Journal of Management Studies*, 28, 3: 207-25.

Ansoff, HI (ed) (1969) *Business strategy: Selected readings*. Baltimore, Md: Penguin Books.

Ansoff, HI (1980) Strategic issue management. *Strategic Management Journal,* 1, 131.

Ansoff, HI (1984) *Implanting strategic management*. London: Prentice Hall International.

Ansoff, HI (1987) *Corporate strategy*. Middlesex: Penguin Books.

Archer, MS (1982) Morphogenesis versus structuration. *British Journal of Sociology*, 33: 455-83.

Archer, MS (1986) Taking time to link structure and agency, New Delhi: *Eleventh World Congress of Sociology* (mimeographed).

Argyris, C; Schon, DA (1978) *Organizational learning: A theory of action perspective*. NY: Addison Wesley.

Arrow, KJ (1963) *Social choice and individual values*. New Haven: Yale University Press.

Bauer, R (1968) The policy process. In Bauer, R; Gergen, K (eds) *The study of policy formulation*. NY: Free Press.

Beaudoin, P (1988) Planning for the worst: Crisis planning. *Management Review*, 77, 8, (Aug): 7-8.

Becker, HS; Geer, B; Hughes, EC; Strauss, AL (1961) *Boys in white*. New Brunswick, NJ: Transaction Books.

Beeton, D (ed) (1988) *Performance measurement: getting the concepts right*. London: Public Finance Foundation.

Bell, D. (1973) The coming of the post industrial society. NY: Basic Books.

Bellak, J (1985) The aims and objectives of the water undertakers. Symposium on the Impact of financial constraints on the levels of service in the water industry. *IWES*, 1.4: 1-8.

Bellak, J (1990) The battle over EC levels and national controls. *Water Information*, S3, (July), WSA.

Bellak, J (1991) The outlook for the UK water industry. *Water Information*, S14, (April), WSA.

Belstead Lord (1988) Priorities in water and environmental management. *IWEM*, 2: 237-39.

Bendix, R (1956) *Work and authority in industry*. NY: Wiley.

Benn, A (1989) *Against the tide: Diaries 1973-76*. Hutchinson, London.

Berger, P; Luckmann, T (1984) *The social construction of reality*. Middlesex, UK: Penguin Books

Bhaskar, R (1978) *A realist theory of science*. Brighton: Harvester.

Bhaskar, R (1979) *The possibility of naturalism: A philosophical critique of the contemporary human sciences*. Brighton: Harvester.

Bhaskar, R (1986) *Scientific realism and human emancipation*. London: Verso.

Biggart, N (1989) *Charismatic capitalism*. Chicago: Uni of Chicago Press.

Billings, RS., Milburn, TW., Schaalman, ML (1980) Crisis perception: A theoretical and empirical analysis. *Administrative Science Quarterly*, 25, 300-15.

Black, P; Morrison, A (1979) Perspectives from three years experience of regional water services in Thames Water Authority. *Water Resources Bulletin*, 15, 6: 1578-88.

Blair, C (1986) Scanning the corporate horizon: Public affairs in the strategically managed organization. *Canadian Review*, 13, 3 Autumn: 33-6.

Blau, P (1964) *Exchange and power in social life*. NY: Wiley.

Blumer, H (1969) *Symbolic interactionism: Perspective and method*. Englewood Cliffs, NJ: Prentice Hall.

Boeker, W (1989) Strategic change: The effects of founding and history. *Academy of Management Journal,* 32, 3: 489-515.

Bostwick, AP (1987) Risk management and survival. *National Underwriter*, 91, 41, (Oct) 12: 15-16.

Boudon, R (1989) *The analysis of ideology*. Cambridge: Polity Press.

Bourdieu, P (1986) *Distinction*. London and NY: Routledge & Kegan Paul.

Bourgeois, LJ (1980) Strategy and environment: A conceptual integration. *Academy of Management Review*, 5, 1, 25-39.

Bourgeois, LJ (1984) Strategic management and determinism. *Academy of Management Review*, 9, 4, 586-96.

Bower, J (1970) *Managing the resource allocation process*. Homewood, Ill: Irwin.

Bower, J; Doz, I (1979) Strategy formulation: A social and political view. In Schendel, D and Hofer, CW (eds) *Strategic management*: 152-65. Boston: Little Brown.

Bower, J; Hout, TM (1988) Fast cycle capability for competitive power. *Harvard Business Review*, 66,: 110-18.

Bowman, JC (1992) Improving the quality of our water: The role of regulation by the National Rivers Authority. *Public Administration*, 70, Winter: 565-75.

Bracker, J (1980) The historical development of the strategic management concept. *Academy of Management Review*, 5, 2: 219-24.

Brandt, E (1988) Not now, I'd rather play golf. *Insurance Review*, 49, 2: 30-35.

Brauchlin, E; Colsman, A (1991) Strategic reactions on political developments in Europe. A preliminary report based on a process-oriented perspective. Paper

presented to the *Strategic Process Research Conference*, (June), 19-22, Norwegian School of Management, Oslo.

Braudel, F (1973) *The Mediterranean and the Mediterranean world in the age of Phillip II.* London: Collins

Braudel, F (1981) *The structures of everyday life: The limits of the possible*, London: Fontana Press.

Brittan, S (1984) The politics and economics of privatisation. *Political Quarterly,* 55, 2:109-27.

Brooker, M (1991) Overview of flotation promises. *Water Information*, S7, (Jan), WSA.

Brown, JC (1975) Pollution - problems, priorities, methods and money. National Water Conference, Bournemouth, Proceedings Report: 4-7, *NWC.*

Brunsson, N (1982) The irrationality of action and action rationality: Decisions, ideologies and organizational actions. *Journal of Management Studies*, 19, 1: 29-44.

Buchanan, J (1975) A contractarian paradigm for applying economic theory. *American Economic Review,* 65 (May): 225-30.

Burgelman, RA (1983a) A model of the interaction of strategic behaviour, corporate context and the concept of strategy. *Academy of Management Review*, 8: 61-70.

Burgelman, RA (1983b) A process model of international corporate venturing in the diversified major firm, *Administrative Science Quarterly*, 28: 223-44.

Burgess, RG (1988) Conversations with a purpose: The ethnographic interview in educational research. *Studies in qualitative methodology*. In Burgess RG (ed), 1, Conducting Qualitative Research, 137-55. Greenwich, CT: JAI Press.

Burns, T (1967) The comparative study of organizations. In Vroom, VH (ed) *Methods of organizational research*: 108-43. Pittsburg: University Press.

Burrell, G; Morgan, G (1979) *Sociological paradigms and organizational analysis*. London: Heinemann.

Carney, M (1990) Privatised water service companies getting on with the job. *Water Information*, S2, (July), WSA.

Carney, M (1991a) Privatisation of water authorities in England and Wales. *Water Information,* S11, (Feb), WSA.

Carney, M (1991b) The management of water supply - public or private. *Water Information*, S15, (May), WSA.

Carney, M (1991c) Appropriate structures for integrated management. *Water Information*, S17, (Nov), WSA.

Carney, M (1992) The cost of compliance with ever higher standards. *Water Information*, S18, (Jan), WSA.

Carter, N (1988) Measuring government performance. *Political Quarterly*, 59, 3: 369-75.

Carter, N (1989) Performance indicators: "backseat driving" or "hands-off" control. *Policy and Politics*, 17, 2: 131-8.

Carter, N. (1991) Learning to measure performance: The use of indicators in organisations. *Public Administration*, 69, Spring: 85-101.

Cassell, J (1988) The relationship of observer to observed when studying up. *Studies in qualitative methodology*. In Burgess, RG (ed) 1, Conducting qualitative research. Greenwich, CT: JAI Press.

Chakravarthy, BS; Doz, Y (1992) Strategy process research: Focusing on corporate self-renewal. *Strategic Management Journal*, 13: 5-14.

Chandler, AD (1962) *Strategy and structure: Chapters in the history of the American industrial enterprise.* Cambridge, MA: MIT Press.

Chandler, AD (1977) *The visible hand: The managerial revolution in American business*. Cambridge, MA: Harvard Uni Press.

Child, J (1968) *The business enterprise in modern industrial society*. London: Collier, MacMillan.

Child, J (1972) Organizational structure, environment and performance: The role of strategic choice. *Sociology*, 6: 1-22.

Child, J; Kieser, A (1981) Development of organizations over time. In Nystrom, PC; Starbuck, WH (eds) *Handbook of organizational design*. Greenwich, CT: JAI Press.

Child, J; Smith G (1987) The context and process of organizational transformation: Cadbury Ltd in its sector. *Journal of Management Studies*, 29, 6: 563-93.

Clark, BR (1972) The organizational saga in higher education. *Administrative Science Quarterly*, 17: 178-84.

Clark, P; Starkey, K (1988) *Organization, transition and innovation design*. Pinter, London.

Cobb, RW; Elder, CD (1972) *Participation in American politics. The dynamics of agenda building*. Boston: Allyn and Bacon.

Cohen, M; March, J; Olsen, J (1972) A garbage can model of organizational choice. *Administrative Science Quarterly*, 17: 1-25.

Collinge, VK (1967) Changes in water conservation in England and Wales. Symposium on the conservation and reclamation of water. Church House, Westminster, London, 28th & 29th Nov, *The Institute of Water Pollution Control.*

Collinge, VK (1972) Mathematical models of water resource systems. Water resources symposium, Birmingham, *Institution of Water Engineers*.

Coulson-Thomas, C; Coe, T (1991) *The flat organisation*. London: British Institute of Management.

Crane, TY (1987) How to prevent a crisis. *New Management*, 5, 1: 35-7.

Crewe, I (1982) The Labour Party and the electorate. In Kavanagh, D (ed) *The politics of the Labour Party*. London: Allen & Unwin.

Crozier, M (1964) *The bureaucratic phenomenon*. London: Tavistock.

Crum, RL; Derkinderen, FGJ (1986) Conceptual development of strategic decision models In McGee, J; Thomas, H (eds) *Strategic management research - A European perspective*. John Wiley & Sons: Chichester.

Daft, R.L; Weick, KE (1984) Towards a model of organisations as interpretation systems. *Academy of Management Review*, 9, 2: 284-95.

Dandridge, TC (1983) Symbols' function and use. In Pondy, LR; Frost, PJ; Morgan, G; Dandridge, TC (eds) *Organizational symbolism*: 69-80. Greenwich, CT: JAI Press.

Dansker, B; Hansen, JS; Loftin, RD; Veldwisch, MA (1987) Issues management in the information planning process. *MIS Quarterly,* 11, 2: 223-230.

Davis, K (1953) Management communication and the grapevine. *Harvard Business Review,* 4: 43-49.

Day, P; Klein, R (1987) *Accountabilities*. London: Tavistock.

De Geus, A (1988) Planning as learning. *Harvard Business Review,* (March-April).

Deal, T; Kennedy, A (1982) *Corporate cultures: The rites and rituals of corporate life*. Reading, Mass: Addison-Wesley.

Dean, JW (1987) Building the future: The justification process for new technology. In Pennings, JM and Buitendam, A (eds), *New technology as organisational innovation*: 35-8. Cambridge MA: Ballinger.

Denzin, NK (1978) *The research act* (2nd ed). New York: McGraw-Hill.

Department of the Environment (1970a) *Report of a river pollution survey of England and Wales*, vol 1. London: HMSO.

Department of the Environment (1970b) *Taken for granted, report of the working party on sewage disposal.* London: HMSO.

Department of the Environment (1971a) *First Annual report of the steering committee on water quality*. London: HMSO.

Department of the Environment (1971b) *Reorganisation of water and sewage services: Government proposals and arrangements for consultation,* Circular 92/71, 2nd Dec.

Department of the Environment (1972a) *Report of a river pollution survey of England and Wales*, vol 1. London: HMSO.

Department of the Environment (1972b) *Report of a river pollution survey of England and Wales*, vol 2. London: HMSO.

Department of the Environment (1973) *Second report of the steering committee on water quality*, (Feb). London: HMSO.

Department of the Environment (1974) *Report of a river pollution survey of England and Wales*, vol 3. London: HMSO.

Department of the Environment (1975) Central unit on environmental pollution, *Controlling pollution,* Pollution Paper No. 4: iii. London: HMSO.

Department of the Environment (1985) *River quality in England and Wales 1985. A report of the 1985 survey*. London: HMSO.

Dermer, J (1990) The strategic agenda: Accounting for issues and support. *Accounting Organisations and Society*, 15, 1\2: 67-76.

Devereux, G (1967) *From anxiety to method in the behavioural sciences.* New York: Humanities Press.

Dill, WR (1958) Environment as an influence on managerial autonomy. *Administrative Science Quarterly*, 2: 409-445.

Dill, WR (1962) The impact of environment on organisational development. In Mailack, S; Van Ness, E (eds) *Concepts and issues in administrative behaviour*: 29-48. Englewood Cliffs, NJ: Prentice Hall.

DiMaggio, P; Powell, WW (1983) The iron cage revisited: Institutional isomprphism and collective rationality in organisational fields. *American Sociological Review*, 48: 147-80.

Dirsmith, MW; Covaleski, MA (1983) Strategy, external communication and environmental context. *Strategic Management Journal*, 4: 137-151.

Donellon, A (1986) Language and communication in organizations. In Simms, HP and Gioia, DA (eds), *The thinking organization:* 136-164. San Francisco: Jossey-Bass.

Douglas, M (1986) *How institutions think.* Syracuse, NY: Syracuse University Press.

Downey, HK; Ireland, RD (1979) Quantitative versus qualitative: Environmental assessment in organisational studies. *Administrative Science Quarterly*, Dec, 24: 630-37.

Drucker, PF (1964) The big power of little ideas. *Harvard Business Review*, 42: 6-8.

Drucker, PF (1969) *The age of discontinuity*. Harper & Row: New York.

Dukerich, J; Milliken, F (1987) Noticing and interpreting complex changes: An information processing approach. Working paper, New York University Graduate School of Business Administration.

Dunbar, RL; Dutton, JM; Torbert, WR (1982) Crossing mother: Ideological constraints on organizational improvements. *Journal of Management Studies*, 19, 1: 91-108.

Duncan, RB (1972a) Characteristics of organisational environments and perceived environmental uncertainty. *Administrative Science Quarterly*, 17: 313-27.

Duncan, RB (1972b) Multiple decision-making structures in adapting to environmental uncertainty: The impact on organisational effectiveness. *Human Relations*, 26, 3: 273-91.

Duncan, RB and Weiss, A (1979) Organizational learning: Implications for organizational design. In Staw, BM (ed) *Research in organizational behaviour, 1*: 75-124. Greenwich, CT: JAI Press.

Dunleavy, PJ (1989) The United Kingdom: Paradoxes of an ungrounded statism: 242-91. In Castles, FG (ed) *The comparative history of public policy.* Cambridge: Polity Press.

Dun's Review (1963) Long range planning and cloudy horizons, 81:42.

Dunsire, A; Hood, CC (1989) *Cutback management in public bureaucracies.* Cambridge: Cambridge University Press.

Dutton, JE (1986) Understanding strategic agenda building and its implications for managing change. *Scandanavian Journal of Management Studies,* 3: 3-24.

Dutton, JE (1988a) Understanding strategic agenda building and its implications for managing change. In Pondy, LR; Boland, RJ; Thomas, H (eds) *Managing ambiguity and change.* Chichester, UK: John Wiley & Sons.

Dutton, JE (1988b) Perspectives on strategic issue processing: Insights from a case study. *Advances in Strategic Management*, 5: 223-244. Greenwich, CT: JAI Press.

Dutton, JE; Ashford, SJ (1993) Selling issues to top management. *Academy of Management Review*, 18, 3: 397-428.

Dutton, JE; Duncan, RB (1987a) The influence of the strategic planning process on strategic change. *Strategic Management Journal*, 8: 103-16.

Dutton, JE; Duncan, RB (1987b) The creation of momentum for change through the process of strategic issue diagnosis. *Strategic Management Journal*, 8: 279-95.

Dutton, JE; Fahey, L; Narayanan, VK (1983) Toward understanding strategic issue diagnosis. *Strategic Management Journal*, 4: 307-23

Dutton, JE; Jackson, SE (1987) Categorizing strategic issues: Links to organisational action. *Academy of Management Review*, 12, 1: 76-90.

Dutton, JE; Ottensmeyer, E (1987) Strategic issue management: forms, functions and contexts. *Academy of Management Review*, 12, 2: 355-65.

Dutton, JE; Penner, WJ (1994) The importance of organisational identity for strategic agenda-building. In Hendry, J; Johnson, G; Newton, J (eds) *Strategic thinking, leadership and the management of change*: 89-113. Chichester, UK: John Wiley.

Dutton, JE; Walton, EJ; Abrahamson, E (1989) Important dimensions of strategic issues: Separating the wheat from the chaff. *Journal of Management Studies*, 26, 4.

Dutton, JE; Webster, J (1988) Patterns of interest around issues: The role of uncertainty and feasibility. *Academy of Management Journal*, 31, 3: 663-75.

Economist (1990) Opinion: EC Directives, 24th March.

Edelman, M (1964) *The symbol uses of politics*. Urbana: University of Illinois Press.

Edwards, K (1985) The role of the water industry in the economy as seen by industry. *Symposium on the impact of financial constraints on the levels of service in the water industry*, IWES: 3.3(c):1-6.

Eisenhardt, KM; Bourgeois, LJ (1988) Politics of strategic decision making in high-velocity environments: Toward a midrange theory. *Academy of Management Journal*, 31, 4: 737-70.

Elcock, H (1993) Local government, ch 6. In Farnham, D;Horton, S (eds) *Managing the new public Services*. London: MacMillan.

Elias, N (1978) *What is sociology?* London: Hutchinson.

Elias, N (1982) *The civilizingpProcess,* vol 1 & 2. Oxford: Basil Blackwell.

Elias, N (1987) The retreat of sociology into the present. *Theory, Culture and Society,* 4, 2-3: 223-48.

Ellis, JC (1988) Water quality monitoring in the water industry: The design and interpretation of routine sampling porogrammes. UK: *Water Research Centre.*

El Sawey, OA; Gomes, GM; Gonzalez, MV (1986) Preserving institutional memory: The management of history as an organisational resource. *Academy of Management Best Paper Proceedings*, 37: 118-22.

Emery, FE; Trist, EL (1965) The causal texture of organisational environments. *Human Relations*, 18: 21-31.

Etzioni, A. (1968) Mobilization as a macrosociological conception. *The British Journal of Sociology*, 19, 3: 243-53.

Fahey, L; Narayanan, VK (1986) *Macroenvironmental analysis for strategic management.* San Francisco: West Publishing Co.

Farnham, D; Horton, S (1993) (eds) *Managing the new public services*. London: MacMillan.

Ferlie, EV (1994) The creation and evolution of quasi markets in the public sector: Early evidence from the National Health Service. *Policy and Politics*, 22, 2: 105-12.

Ferlie, EV (1996) The new public management and rising bodies of managerial thought: The UK case. In Ferlie, EV; Ashburner, L; Fitzgerald, L; Pettigrew, AM *The new public management in action.* Oxford: Oxford University Press.

Ferlie, EV; Ashburner, L; Fitzgerald, L; Pettigrew, AM (1996) *The new public management in action.* Oxford: Oxford University Press.

Finch, J (1974) Presidential Address. *Water Pollution Control*, 73,1: 5-13.

Fink, S (1986) Managing your business: Planning for a crisis. *Nation's Business*, 74, 4: 49-52.

Fish, H (1975a) Plenary Session 1, *Pollution, problems, priorities methods and money*. National Water Conference, Bournemouth, Proceedings Report: 9, NWC.

Fish, H (1975b) A new look at pollution prevention on lowland rivers. *Water,* National Water Commission, 3, April: 2-4.

Fligstein, N (1985) The spread of the multi-divisional form among large firms. *American Sociological Review*, 50: 377-91.

Flynn, A; Gray, A; Jenkins, W; Rutherford, B (1988) Making indicators perform. *Public Money and Management*, (winter): 35-41.

Fraser, B (1991) Linking standards to customer's expectations. *Water Information*, S9, (Feb), WSA.

Friedlander, F (1983) Patterns of individual and organizational learning. In Shrivastava, P (ed) *The executive mind.* San Francisco: Jossey-Bass.

Friedman, M (1962) *Capitalism and freedom.* Chicago: University of Chicago Press.

FWR (1990) Summary report on environmental developments - 4, (Apr-Sept), *Oct Research Report WRc.*

FWR (1991a) Summary report on environmental developments - 6, (Apr-June), *July Research Report WRc.*

FWR (1991b) Summary report on environmental developments -7, (July-Sept), *Sept Research Report, Wrc.*

Gagliardi, P (1986) The creation and change of organisational cultures: A conceptual framework. *Organization Studies,* 7: 117-34.

Gamble, A (1988) *The free economy and the strong state: the politics of Thatcherism*. London: Macmillan.

Gardner, JW (1963) *Self-Renewal.* NY: Harper & Row.

Garfinkel, H. (1967) *Studies in ethnomethodology*. Englewood Cliffs, N.J.: Prentice-Hall.

Garratt, B (1987) *The learning organisation.* London: Fontana.

Gattorna, A; Day, L (1986) Strategic issues in logistics. *International Journal of Physical Distribution and Materials Management (UK)*, 16, 2: 342.

Gersick, CJG (1991) Revolutionary change theories: A multilevel exploration of the punctuated equilibrium paradigm. *Academy of Management Review*, 16, 1: 10-36.

Giddens, A (1976) *New rules of sociological method.* London: Hutchinson.

Giddens, A (1979) *Central problems of social theory: Action, structure and contradictions in social analysis.* London: MacMillan.

Giddens, A (1981) *A contemporary critique of historical materialism.* London: MacMillan.

Giddens, A (1984) *The constitution of society.* Cambridge: Polity.

Giddens, A (1985) *The nation-state and violence.* Cambridge: Polity.

Gimpel, ML; Dakin, SR (1984) Management and magic. *California Management Review,* 27,1: 125-36.

Gioia, D; Pitre, E (1990) Multiparadigm perspectives on theory building. *Academy of Management Review*, 15, 4: 584-602.

Glaser, B; Strauss, A (1967) *The discovery of grounded theory.* Chicago: Aldine.

Glueck, WF; Willis, R (1979) Documentary sources. *Academy of Management Review*, 4, 1: 95-102.

Goodman, RS; Kruger, EJ (1988) Data dredging or legitimate research method? Historiography and its potential for management research. *Academy of Management Review,* 13, 2: 315-25.

Goodman, RS; Pryluck, C (1974) The tape recorder interview as data in film history. *Speech Monographs,* 39: 306-11.

Goodrich, AL (1975) Special session 1: Management in the water industry. *National Water Conference, Proceedings Report.* Bournemouth, (March), National Water Council.

Gordon, GG (1991) Industry determinants of organisational culture. *Academy of Management Review*, 16, 2:396-415.

Gould, SJ; Eldredge, N (1977) Punctuated equilibria: The tempo and mode of evolution reconsidered. *Paleobiology*, 3: 115-51.

Graham, C; Prosser, T (1988) "Rolling back the frontiers". The privatisation of state enterprises: 73-94. In Graham, C; Prosser, T *Waiving the rules*. Milton Keynes: Open University Press.

Granovetter, M (1985) Economic action and social structure: The problem of embeddedness. *American Journal of Sociology,* 91, 3: 481-510.

Gregory, D (1982) *Regional transformation and the industrial revolution*. London: Heineman.

Gregory, K (1983) Native view paradigms: Multiple cultures and culture conflicts in organizations. *Administrative Science Quarterly*, 28: 359-77.

Greiner, LE (1972) Evolution and revolution as Organizations grow. *Harvard Business Review*, 50: 37-46.

Grinyer, PE; Spender, J (1979) *Turnaround*. London: Associated Business Press.

Gross, N; Mason, W; McEachern, A. (1958) *Explorations in role analysis: Studies of the school superintendency role.* NY: Wiley.

Grove, D (1991) The management of capital investment. *Water Information*, S13, (April), WSA.

Guth, W; Ginsberg, A (1990) Corporate entrepreneurship. *Strategic Management Journal, Special Issue,* Summer: 5-15.

Halbwachs, M (1950/1980) *The collective memory*. NY: Harper Colophon Books.

Hall, C (1989) *Running water*. London: Robertson McCarta.

Hall, RH (1963) The concept of bureaucracy: An empirical assessment. *American Journal of Sociology,* 69: 32-40.

Hall, RI (1984) The natural logic of management policy making: Its implications for the survival of an organisation. *Management Science,* 30: 905-27.

Hambrick, DC (1981) Environment, strategy and power within top management teams. *Administrative Science Quarterly*, 26: 253-75.

Hammerton, D (1987) The impact of environmental legislation. *Journal of Water Pollution Control,* 86: 333-44.

Hanley, N; Hallett, S; Moffatt, I; Farley, D; Taylor-Duncan, K; Pezzey, J (1991) Appraisal of the potential role of market mechanisms in water quality issues. Research report to the Royal Commission on Environmental Pollution, Royal Commission 16: Editions 1992. *Freshwater Quality*. London: HMSO.

Hannan, MT (1989) *Organizational ecology*. Cambridge, MA: Harvard Uni Press.

Hannan, MT; Freeman, J (1977) The population ecology of organizations. *American Journal of Sociology*, 82,5: 929-64.

Harkness, N (1982) The River Thame - A short history of water pollution control within an industrial river basin. *Water Science Technology*, 14: 153-65.

Harper, B (1986) Management opportunities in water privatisation, *Public Finance and Accountancy,* May 30: 14-15.

Harre, R; Secord, P (1972) *The explanation of social behaviour.* Oxford: Blackwell.

Hawley, A (1968) Human ecology. In Sills, DL (ed) *The international encyclopedia of the social sciences*. NY: Crowell- Collier & MacMillan.

Hayek, F (1967) *Studies in philosophy, politics and economics*. London: Routledge & Kegan Paul.

Hedberg, B (1981) How organisations learn and unlearn. In Nystrom, PC; Starbuck, B (eds) *Handbook of organisational design*. Oxford: OUP.

Hedlund, G (1994) A model of knowledge management and the N-form corporation. *Strategic Management Journal,* 15: 73-90.

Helm, D; Yarrow, G (1988) The assessment: The regulation of utilities. *Oxford Review of Economic Policy,* 4 (2): i-xxxi.

Henderson, B (1990) The setting of standards - The genuine concerns. *Water Information*, S1, (July), WSA.

Hickson, DJ; Astley, WG; Butler, RS; Wilson, DC (1981) Organization as power. *Research in Organisational Behaviour*, 3: 151-96. Greenwich, CT: JAI Press.

Hilgartner, S; Bosk, CL (1988) The rise and fall of social problems: A public arenas model. *American Journal of Sociology*, 94: 53-78.

Hinnings, CR; Greenwood, R (1989) *The dynamics of strategic change*. Oxford: Blackwell.

Hoggett, P; Hambleton, R (1987) *Decentralisation and democracy* (School of Advanced Urban Studies University of Bristol).

Hood, CC (1990a) Beyond the public bureaucracy state? Public administration in the 1990s, inaugural lecture, London School of Economics, 16 January.

Hood, CC (1990b) De-Sir-Humphrey-frying the Westminster model of governance. *Governance*, 3: 205-14.

Hood, CC (1991) A Public management for all seasons? *Public Administration*, 69, Spring: 3-19.

Hood, CC; Schuppert, GF (eds) (1988) *Delivering public services in Western Europe*. London: Sage.

Hood, N (1991) Adapting to privatisation: The cultural changes. *Water Information*, S12, (April), WSA.

Hood, RC (1962) Business organisation as a cross product of its purposes and of its environment. In Mason, H (Ed) *Organisational theory in industrial practice*. NY: John Wiley.

Huber, GP; Power, DJ (1985) Retrospective reports of strategic-level managers: Guidelines for increasing their accuracy. *Strategic Management Journal,* 6: 171-80.

Huberman, AM; Miles, MB (1983) Drawing valid meaning from qualitative data: Some techniques of data reduction and display. *Quality and Quantity,* 17: 281-339.

Huff, AS (1982) Industry influences on strategic reformulation. *Strategic Management Journal*, 3: 119-31.

Huff, AS (ed) (1990) *Mapping strategic thought*. Chichester: John Wiley & Sons.

Huff, AS; Reger, RK (1987) A review of strategic process research. *Journal of Management*, 13, 2: 211-36.

Hughes, T (1975) Issues that the water authorities must face. *Water*, National Water Council, 2, (Jan): 3-5.

Hurst, DK (1986) Why strategic management is bankrupt. *Organizational Dynamics*, 15, 2: 5-27.

Husserl, E (1973) *Idea of phenomenology*. Netherlands: Kluwer Academic Publishers.

Hyman, R (1987) Strategy or structure? Capital, labour and control. *Work Employment and Society*, 1, 1: 25-55.

Institute of Public Health Engineers; Institution of Water Engineers; Institute of Water Pollution Control (1969) *Future organization of river, sewerage and water authorities*, (March).

Jackson, P (1985) *Implementing government policy initiatives: The Thatcher administration 1979-83*. London: RIPA.

Jackson, SE (1992) Consequences of group composition for the interpersonal dynamics of strategic issue processing. In Shrivastava, P; Huff, AS; Dutton, J (eds) *Advances in strategic management,* 8: 345-82. Greenwich CT: JAI Press.

Jelinek, M (1979) *Institutionalizing innovation.* NY: Praeger.

Jelinek, M; Smircich, L; Hirsch, P (1983) Organizational culture. *Administrative Science Quarterly,* 28: 331-8.

Jessop, B (1988) Conservative regimes and the transition to post-Fordism. *Essex Papers in Politics and Government,* 47, Department of Government, University of Essex.

Jick, TD (1979) Mixing qualitative and quantitative methods: Triangulation in action. *Administrative Science Quarterly,* (Dec), 24.

Johnson, G (1988) Rethinking incrementalism. *Strategic Management Journal,* 9: 75-91.

Johnson, G (1990) Managing strategic change, the role of symbolic action. *British Journal of Management,* vol 1: 183-200.

Jones, G (1990) Investing in water quality. *Water Information,* S4, (Sept), WSA.

Jones, G (1991) Competition in the privatised water industry. *Water Information,* S5, (Jan), WSA.

Jonsson, SA; Lundin, RA (1977) Myths and wishful thinking as management tools. In Nystrom, PC; Starbuck, WH (eds) *Prescriptive models of organisations:* 157-70. Amsterdam, Nth Holland: JAI Press.

Kantow, AM (1987) *The constraints of corporate tradition.* NY: Harper Row.

Katz, D; Kahn, RL (1966) *The social psychology of organisations.* NY: Wiley.

Keats, B; Hitt, M (1988) A causal model of linkages among environmental dimensions, macro organizational characteristics and performance. *Academy of Management Journal,* 31, 3: 570-98.

Keeling, D (1972) *Management in government.* London: Allen & Unwin.

Kiesler, S; Sproull, L (1982) Managerial responses to changing environments: Perspectives on problem sensing for social cognition, *Administrative Science Quarterly,* 27: 548-70.

Kimberly, J (1975) Environmental constraints and organisational structure: A comparative analysis of rehabilitation organisations. *Administrative Science Quarterly,* 20: 1-9.

Kimberly, J (1979) Issues in the creation of organizations: Initiation, innovation and institutionalisation. *Academy of Management Journal*, 22, 3: 437-57.

Kimberly, J (1987) Environment, organization and effectiveness: A biographical approach. *Journal of Management Studies,* 24, 6, Nov: 595-622.

Kimberly, J; Miles, RH and Assoc (1980) *The organisational life cycle: Issues in the creation, transformation and decline of organisations*. San Francisco, Cal: Jossey-Bass.

Kinnersley, D (1985) The legal and financial framework. *Symposium on the impact of financial constraints on the levels of service in the water industry,* IWES: 1.1.

Kinnersley, D (1988) *Troubled water: Rivers, politics and pollution*. London: Hilary Shipman.

Kloos, P (1988) No knowledge without a knowing subject. *Studies in qualitative methodology*. In Burgess, RG (ed) 1, Conducting qualitative research: 221-41. Greenwich, CT: JAI Press.

Knights, D; Willmott, HC (1987) Organisational culture as management strategy: A critique and illustration from the financial services industry. *International Studies of Management and Organisations*, 17, 3: 40-63.

Kooiman, J; Eliassen, KA (1987) *Managing public organizations: Lessons from contemporary European experience.* London: Sage.

Krippendorf, A (1975) Some principles of information storage and retrieval in society. *General Systems,* 20: 15-35.

Lawrence, BS (1984) Historical Perspective: Using the past to study the present. *Academy of Management Review*, 9, 2: 307-12.

Lawrence, PR; Lorsch, JW (1967) *Organisation and environment. Managing differentiation and integration.* Boston: Harvard University Press.

Lenz, RT; Engledow, JL (1986) Environmental analysis: The applicability of current theory. *Strategic Management Journal*, 7: 329-46.

Lester, WF (1965) *The Water Resources Act 1963 and river water quality management*. The Institute of Sewage Purification, Annual Conference, 22nd-25th June, Harrogate: paper 5.

Levine, S; White, PF (1961) Exchange as a conceptual framework for the study of interorganisational relationships. *Administrative Science Quarterly*, 5.

Levitt, M; Joyce, M (1987) *The growth and efficiency of public spending.* Cambridge: Cambridge University Press.

Lillicrap, R (1974) Risk of outbreak of waterborne diseases has increased. *Municipal Engineering*, 29 Nov: 2352-3.

Lindbloom, CE (1977) *Politics and markets: The world's political-economic systems.* New York: Basic Books.

Lodahl, TM; Mitchell, SM (1980) Drift in the development of innovative organisations. In Kimberly, JR and Miles, RH (eds) *The organizational life cycle.* Sahn Francisco: Jossey-Bass.

Lougher, G (1979) Issues in the creation of organizations: Institution, innovation and institutionalization, *Academy of Management Journal*, 22,3: 437-57.

Lougher, G (1992) The single market: What will it mean for the UK water industry? *Water Law*, 3,6, Nov: 180-83.

Louis, MR (1983) Organizations: A culture-bearing mileux. In Pondy, L; Frost, P; Morgan, G; Dandridge, T (eds) *Organizational symbolism*: 39-54. Greenwich CT: JAI Press.

Lyles, MA (1981) Formulating strategic problems: Empirical analysis and model development. *Strategic Management Journal*, 2: 61-75.

Lyles, MA (1990) A research agenda for strategic management in the 1990s. *Journal of Management Studies*, 27, (4 July): 363-75.

Lyles, MA; Mitroff,II (1980) Organizational problem formulation: An empirical study. *Administrative Science Quarterly*, 25:102-20.

Lyles, MA; Mitroff, II (1985) The impact of sociopolitical influences on strategic problem fomulation. *Advances in Strategic Management*, 3: 69-81. Greenwich, CT: JAI Press.

Maloney, WA; Richardson, JJ (1992) Post-privatisation regulation in Britain. *Politics*, 12, 2: 14-20.

Mannheim, K (1991) *Ideology and utopia.* Routledge: London.

Manning PK (1979) Metaphors of the field: Varieties of organizational discourse. *Administrative Science Quarterly*, (Dec), 24.

March, JG; Olsen, J (1976) Organisational choice under ambiguity. In March,JG; Olsen, J (eds) *Ambiguity and choice in organisations*. Bergen: Uni-forlaget.

March, JG; Simon, HA (1958) *Organizations*. NY: Wiley.

Marsh, D (1991) Privatization under Mrs Thatcher: A review of the literature. *Public Administration*, 69, Winter: 459-80.

Martin, JR; Woods DR (1992) Water quality management (UK): Thirty years of change. *Water Environmental Federation 65th Annual Conference, New Orleans, Sept.*

Martin, S (1983) *Managing without managers*. Beverley Hills: Sage.

Marx, TG (1986) Integrating public affairs and strategic planning. *California Management Review*, 29, 1: 141-47.

Mathews PJ; Mance, G (1986) *Modern river management*. The Institute of Water Pollution Control Annual Conference, Birmingham, 8-11 Sept.

Mead, M (1928) *Coming of age in Samoa.* Reprinted London: 1943.

McAllister, I; Studlar, D (1989) Popular versus elite views of privatisation: The case of Britain. *Journal of Public Policy*, 9: 157-78.

McDowall, D; Ladd, HS (1985) The post-recession head office. *Canadian Business Review,* 12, 3, Autumn: 44-8.

McLoughlin, J (1975) The Control of Pollution Act 1974. *Journal of Planning and Environmental Law*, Feb: 77-85.

Meek, LV (1988) Organizational culture: Origins and weaknesses. *Organization Studies*, 9, 4: 453-73.

Melzer, AH; Richard SF (1981) A rational theory of the size of government. *Journal of Political Economy,* 89: 914-27.

Merkle, J (1980) *Management and ideology: The legacy of the international scientific management movement.* Berkley: California University Press.

Merton, K (1957) *Social theory and social structure*. Glencoe: Free Press.

Merton, K. (1964) Anomie, anomia and social interaction: Contexts of deviant behaviour. In Clinard, M (ed) *Anomie and deviant behaviour: Discussion andcCritique.* NY: Free Press.

Meyer, AD (1982) Adapting to environmental jolts. *Administrative Science Quarterly*, 27: 515-37.

Meyer, AD; Brooks, GR; Goes, JB (1990) Environmental jolts and industry revolutions: Organizational responses to discontinuous change. *Strategic Management Journal*, 11: 93-110.

Meyer, JW; Rowan B (1977) Institutionalized organisations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83, 2: 340-63.

Meyers, GC; Langhoff, P (1987) Crisis management-expecting the unexpected. *New Management*, 5, 1: 20-3.

Miles, MB (1979) Qualitative data as an attractive nuisance: The problem of analysis. *Administrative Science Quarterly,* (Dec), 24.

Miles, RE (1982) *Coffin nails and corporate strategies.* Prentice-Hall International.

Miles, RE; Snow, CC (1978) *Organizational strategy, structure and process*. NY: McGraw-Hill.

Miller, D (1982) Evolution and revolution: A quantum view of structural change in organizations. *Journal of Management Studies*, 19: 131-51.

Miller, D; Friesen, PH (1982) Structural change and performance: Quantum versus piecemeal-incremental approaches. *Academy of Management Journal*, 25, 4: 867-92.

Miller, WH (1987) Issue management - no longer a sideshow. *Industry Week*, Nov 2.

Milliken, FJ (1987) Three types of perceived uncertainty about the environment: state, effect and response uncertainty. *Academy of Management Review*, 12, 1, 133-43.

Milliken, FJ (1990) Perceiving and interpreting environmental change: An examination of college administrators' interpretation of changing demographics. *Academy of Management Journal*, 33, 1: 42-63.

Mills, AJ (1988) Organization, Gender and Culture, *Organization Studies,* 9, 3: 351-69.

Mills, S (1986) *The new machine men.* Ringwood: Penguin.

Mintzberg, H (1978) Patterns in strategy formation. *Management Science*, 24, 9.

Mintzberg, H (1979) An emerging strategy of "Direct" research. *Administrative Science Quarterly*, (Dec), 24.

Mintzberg, H (1990) The design school: Reconsidering the basic premises of strategic management. *Strategic Management Journal*, 11: 171-95.

Mintzberg, H (1994) The fall and rise of strategic planning. *Harvard Business Review*, (Jan-Feb).

Mintzberg, H; Raisinghani, D; Theoret, A (1976) The structure of "unstructured" decision processes. *Administrative Science Quarterly*, 21: 246-76.

Mitchell, J (1990) Britain: privatisation as myth? In Richardson, J (ed) *Privatisation and deregulation in Canada and Britain*: 14-34. Aldershot: Dartmouth.

Moon, J; Richardson, J; Smart, P (1986) The Privatisation of British Telecom: A case study of the extended process of legislation. *European journal of Political Research*, 14: 339-55.

Morris, R (1989) When things go wrong: A question of confidence. *Industrial Management*, 31, 1: 4-5.

Morrison, A (1974) Case study for the United kingdom: The kiss of life for the River Thames, environmental accomplishments to date: A reason for hope. International Symposium II. In Dalen, GM; Tipton, CR Jr (eds) *The environmental symposium series "learning to live on a small planet"*. Washington: Gonzaga Uni/Spokane.

Morrison, A (1975) Multifunctional expertise. *Municipal Journal/Municipal Engineering Supplement,* (4 April): 3-4.

Morrison, A (1976) Financial restrictions and their effect on the water industry. Paper no 2, One hundered and third annual conference in Bournemouth. *The Institute of Municipal Engineers.*

Moyser, G (1988) Non-standardised interviewing in elite research. *Studies in qualitative methodology*. In Burgess, RG (ed) 1, Conducting Qualitative Research: 109-136. Greenwich, CT: JAI Press.

Mueller, D (1979) *Public choice.* Cambridge: Cambridge University Press.

Municipal Engineering (1973) Everest has been climbed, 13 July:1537.

Municipal Engineering (1974) Nitrate in Lee proved reorganisation's value, 20 Sept: 1747.

Municipal Engineering (1975a) Welsh water sheiks, 10 Jan: 56.

Municipal Engineering (1975b) Lamsac hears Morrison sing Ogden's praises, 14 March: 504.

Municipal Engineering (1975c) WAs hope pollution will stay on the shelf, 152, 11 July: 1315.

Municipal Engineering (1975d) No outside watchdog for Thames WA's pollution control, 18 July: 1366.

Municipal Engineering (1975e) Executive body needed for water resource Planning, 26 Sept: 1832.

Naisbitt, J (1982) *Megatrends*. NY: Warner Books.

National Audit Office (1992) *Department of the Environment: Sale of the Water Authorities in England and Wales*. Report by the Comptroller and Auditor General, 14 Feb. London: HMSO.

National Rivers Authority (1990) Briefing paper, *Charging for discharging*. Unpublished.

National Rivers Authority (1991a) *The quality of rivers, canals and estuaries in England and Wales: Report of the 1990 survey*. Water Quality Series, 4, Bristol: NRA.

National Rivers Authority (1991b) Proposals for statutory water quality objectives. *NRA Water quality series, No5*.

National Water Council (1974) *Bulletin*, 1, 19 April.

National Water Council (1975a) Chairman's Foreword. *First annual report and accounts, 1974/75*.

National Water Council (1975b) Pollution - problems, priorities, methods and money. *National Water Conference, Bournemouth, proceedings report*, 18th March, NWC: 7-9.

National Water Council (1975c) *Bulletin*, 13, 4 April, par 3454.

National Water Council (1975d) *Bulletin*, 32, 15 Aug, par 5222.

National Water Council (1975e) Water resources in England and Wales - Views of the National Water Council on the report of the Water Resources Board.

National Water Council (1980) *River quality in England and Wales. A report of the 1980 survey*. London: HMSO.

Neustadt, RE; May, ER (1986) *Thinking in time: The uses of history for decision makers*. New York: Free Press.

New Civil Engineer (1974) RWAs go their different ways, 22 November.

Newman, LM (1989) Exxon's lesson for other managers. *Business and Economic Review*, 35, 4: 8-10.

New Scientist (1976) leader, 11 Mar.

Niskanen, WA (1971) *Bureaucracy and representative government*. Chicago: Aldine Atherton.

Nixon, M (1972) Problems of water resource management in the Trent River basin. *Water Resources Symposium.* Birmingham: Institution of Water Engineers.

Norman, DA (1976) *Memory and attention,* (2nd Ed). NY: Wiley.

Nugent Lord (1971) Ernest Balsom lecture. *Institution of Public Health Engineers,* 23 April.

Oake, R (1991) Sludge disposal - The options. *Water Information,* S8, (Jan), WSA.

Okun, DA (1967) Regrouping of water supplies in the United Kingdom. *Public Works,* 198, 6: 153-4.

Okun, DA (1968) The hierarchy of water quality. *Environmental Science and Technology,* 2: 672-5.

Okun, DA (1974) Planned reuse of polluted waters and wastewaters. *Effluent and Water Treatment Journal (Britain),* July: 373-6.

Okun, D.A (1977) *Regionalization of water management: A revolution in England and Wales.* London: Applied Science Publishers Ltd.

Oldfield, JB (1985) Water Authorities: Combining the best of the private and public sectors. *Symposium on the impact of financial constraints on the levels of service in the water industry,* 4-5th Dec: 3.1(a): 1-7. London: IWES.

Organisation for Economic Co-operation and Development (1989) *Economic instruments for environmental protection.* Paris: OECD.

Orminski, EM (1991) *Business information needs of science park companies.* Library and information research report 81. London: The British Library.

Ostrom, V (1974) *The intellectual crisis in American public administration.* Alabama: University of Alabama Press.

Outhwaite, W (1983) *Concept formation in social science.* London: Routledge & Kegan Paul.

Outhwaite, W (1987) *New philosophies of social science: Realism, hermeneutics and critical theory.* London: MacMillan.

OXERA (1993/94) Guide to the economic regulation of the water industry. Oxford.

Parkinson, M (1987) *Reshaping local government* (Bristol: Policy Journals).

Peacock, A (1979) Public expenditure growth in post-industrial society: 80-95. In Gustafsson, B (ed) *Post-industrial society.* London: Croom Helm.

Pearce, F (1984) The great drain robbery. *New Scientist*, 15 Mar: 10-16.

Pettigrew, AM (1975) Strategic aspects of the management of specialist activity. *Personnel Review,* 4: 5-13.

Pettigrew, AM (1977) Strategy formulation as a political process. *International Studies of Management and Organisation*, 7, 2: 78-87.

Pettigrew, AM (1979) On studying organizational cultures. *Administrative Science Quarterly,* Dec, 24: 570-81.

Pettigrew, AM (1985a) *The awakening giant: Continuity and change in ICI.* Oxford: Basil Blackwell.

Pettigrew, AM (1985b) Contextualist research: A natural way to link theory and practice. In Lawler, EE (ed) *Doing research that is useful in theory and practice.* San Francisco: Jossey Bass.

Pettigrew, AM (1985c) Examining change in the long term context of culture and politics. In Pennings J & M & assoc *Organizational strategy and change.* San Francisco: Jossey Bass.

Pettigrew, AM (1986) Some limits of executive power in creating strategic change. In Srivastava, S (ed) *The functioning of executive power.* San Francisco: Jossey Bass.

Pettigrew, AM (1987) Context and action in the transformation of the firm. *Journal of Management Studies*, 24, 6: 649-70.

Pettigrew, AM (1990a) Longitudinal field research on change: Theory and practice. *Organization Science*, 1, 3, (Aug).

Pettigrew, AM (1990b) Studying strategic choice and strategic change. A comment on Mintzberg and Waters: "Does decision get in the way". *Organisation Studies,* 11/1: 6-11.

Pettigrew, AM (1992) The character and significance of strategy process research. *Strategic Management Journal*, 13: 5-16.

Pettigrew, AM; Ferlie, E; McKee, L (1992) *Shaping strategic change.* London: Sage.

Pettigrew, AM; Whipp, R (1991) *Managing change for competitive success.* Oxford: Blackwell.

Pezzey, J (1988) Market mechanisms of pollution control: Polluter pays, economical and practical aspects. In Turner, R (ed) *Sustainable environmental management.* Colorado: Belhaven Press, ESRC.

Pfeffer, J (1981) Management in symbolic action: The creation and maintenance of organizational paradigms. *Research in organizational behaviour*, 3: 1-52. Greenwich, CT: JAI Press.

Pfeffer, J; Salancik, GR (1978) *The external control of organizations: A resource dependence perspective*. New York: Harper & Row.

Piore, MJ (1979) Qualitative research techniques in economics. *Administrative Science Quarterly*, (Dec), 24.

Piore, MJ; Sabel CF (1984) *The second industrial divide.* New York: Basic.

Platt, J (1988) What can case studies do? *Studies in qualitative methodology.* In Burgess, RG (ed) Conducting Qualitative Research, 1,:1-23. Greenwich, CT: JAI Press.

Polanyi, M (1966) *The tacit dimension.* Garden City, New York: Doubleday and Co Inc.

Pollitt, C (1986) Beyond the managerial model: The case for broadening performance assessment in government and the public services. *Financial Accountability and Management*, 2, 3: 155-70.

Pollitt, C (1990) *Managerialism and the public services: The Anglo-American experience.* Oxford: Blackwell.

Pondy, LR (1984) Union of rationality and intuition in management action. In Shrivastava, P & Assoc *The executive mind: New insights in managerial thought and action.* San Francisco, CA: Jossey-Bass.

Pondy, LR; Mitroff, II (1979) Beyond open system models of organizations. *Research in organizational behaviour*, 1: 3-39. Greenwich, CT: JAI Press.

Poole, MS (1985) Communication and organizational climate: Review critique and a new perspective. In McPhee, RD; Tompkins, PK (eds) *Organizational communication: Traditional themes and new directions*: 79-108. Beverly Hills, CA: Sage.

Poole, MS; Seibold, DR; McPhee, RD (1985) Group decision making as a structurational process. *Quarterly Journal of Speech*, 71: 74-102.

Poole, MS; Van de Ven, AH.(1989) Using paradox to build management and organization theories. *Academy of Management Review*, 14: 562-78.

Porac, JF; Thomas, H (1990) Taxonomic mental models in competitor definition. *Academy of Management Review,* 15, 2: 224-40.

Porac, JF; Thomas, H; Baden-Fuller, C (1989) Competitive groups as cognitive communities: The case of Scottish knitwear manufacturers. *Journal of Management Studies,* 26, 4.

Porter, M (1980) *Competitive strategy*. NY: Free Press.

Porter, M (1987) From competitive advantage to corporate strategy. *Harvard Business Review*, 65, 3: 43-59.

Price, B (1985) Environmental issues. *Symposium on the impact of financial constraints on the levels of service in the water industry*, 4-5th Dec: 4.4 1-5. London: IWES.

Public Accounts Committee (1981) *Financial control and accountability in the National Health Service*, 17th report, Session 1980-81. London: HMSO.

Quinn, B (1978) Strategic change:"Logical Incrementalism". *Sloan Management Review*, 1, 20, Fall: 7-21.

Quinn, JB (1980) *Strategies for change: Logical incrementalism*. Homewood, IL: Irwin.

Radner, R (1975) Satisfying. *Journal of Mathematical Economics*, 2: 225-62.

Radner, R; Rothschild, M (1975) On the allocation of effort. *Journal of Economic Theory*, 10: 358-76.

Ramanujam, V; Venkatraman, N (1985) Eight half-truths of strategic planning: A fresh look. *Planning Review*, 13, 1: 22-7.

Ramee, J (1987) Crisis management: Looking for the warning signs. *Management Solutions*, 32, 1: 5-10.

Randall, B (1975) Water Authorities get a roasting at Dicta Conference. *Municipal Engineering*, 2 May: 853.

Ranson, S; Hinnings, CR; Greenwood, R (1980) The Structuring of organisational Structures. *Administrative Science Quarterly*, March, 25: 1-16.

Reilly, AH (1987) Are organizations ready for crisis? A managerial scorecard. *Columbia Journal of World Business*, 22, 1, Spring: 79-88.

Reynolds, PD (1986) Organizational culture as related to industry, position and performance: A preliminary report. *Journal of Management Studies,* 23, 3: 333-45.

Richards, M (1991) Better drinking water. *Water Information*, S10, (Feb), WSA.

Richardson, B; Richardson, R (1989) *Business planning - An approach to strategic management*. London: Pitman.

Richardson, JJ; Jordan, AG (1979) *Governing under pressure*. Oxford: Martin Robertson.

Richardson, JJ; Maloney, WA; Rudig, W (1992) The dynamics of policy change: Lobbying and water privatisation. *Public Administration*, 70, 2: 157-75.

Rifkin, J (1981) *Entrophy*. NY: Bantam Books.

Ritchie, IB (1985) Sewerage, sewage treatment and sludge disposal. *Symposium on the impact of financial constraints on the levels of service in the water industry*. IWES: 2.2.

Ritvo, RA; Salipante, P; Notz, WW (1979) Environmental scanning and problem recognition by governing boards: The response of hospitals to declining birth rates. *Human Relations*, 23, 3: 227-35.

Roberts, KF (1975) Reorganisation-Reflections after a year of change. Institution of Water Engineers, Summer General Meeting, 14 May: 16-33.

Rock, S (1988) The water margin. *Director*, December.

Romanelli, E; Tushman, ML (1986) Inertia, environments and strategic choice: A quasi experimental design for comparative longitudinal research. *Management Science,* 32, 5.

Rotter, J. (1966) Generalized expectancies for internal vs external control of reinforcement. *Psychological Monographs*, 80, 1: 1-28.

Royal Commission on Environmental Pollution, (1972) *Third Report, Pollution in Some British Estuaries and Coastal Waters* (Sept). London: HMSO.

Royal Commission on Environmental Pollution (1984) *Tackling pollution - experience and prospects*, Tenth Report. London: HMSO.

Royal Commission on Environmental Pollution (1987) *Study of fresh water quality*. Evidence of the Water Authorities Association, 22 Jan. London: HMSO.

Rus, J (1980) Positive and negative power: Thoughts on the dialectic of power. *Organization Studies*, 1, 1.

Sallivan, J; Nonaka, I (1988) Culture and strategic issue categorisation theory. *Management International Review (Germany),* 28, 3: 6-10.

Sampson, KL (1989) Records management can reduce business risk. *Office,* 109, 6: 14-19.

Schein, EH (1984) Coming to a new awareness of organizational culture. *Sloan Management Review,* 25, 2: 3-16.

Schillit, WK; Locke, EA (1982) A study of upward influence in organisations. *Administrative Science Quarterly,* 27: 304-16.

Schuller, T (1988) Pot-Holes, caves and lotusland: Some observations on case study research, studies in qualitative methodology. In Burgess, RG (ed) 1, *Conducting Qualitative Research*, 59-71. Greenwich, CT: JAI Press.

Scott, WR (1987) The adolescence of institutional theory. *Administrative Science Quarterly*, 32: 493-511.

Selznick, P (1949) *T.V.A and the grass roots.* Berkley, CA: University of California Press.

Selznick, P (1957) *Leadership in administration.* NY: Harper & Row.

Senior, D (1974) Whose water cycle? *Built Environment:* 557-9.

Sethia, NK; Von Glinow, MA (1985) Arriving at four cultures by managing the reward system. In Kilmann, RH; Saxton, MJ; Serpa, R (eds) *Gaining control of the corporate culture.* San Francisco: Jossey-Bass.

Severn Trent Water Authority (1973a) *Water Quality.*

Severn Trent Water Authority (1973b) *Guide to Water Quality.*

Severn Trent Water Authority (1974) *Water Quality.*

Severn Trent Water Authority (1974/5) *Annual Repoorts and Accounts.*

Severn Trent Water Authority (1976) *Water Quality (1974/75).*

Severn Trent Water Authority (1975/6-1983/4) *Water Quality.*

Severn Trent Water Authority (1983/4) *Annual Reports & Accounts.*

Severn Trent Water Authority (1987/8) *Annual Reports & Accounts.*

Sewell, WH (1992) A theory of structure: Duality, agency and transformation. *American Journal of Sociology*, 98, 1: 1-29.

Shaw, J (1975) Panel discussion: Pollution - problems, priorities, methods and money. National Water Conference, Bournewouth, Proceedings Report. *National Water Council*: 17.

Shortell, SM; Morrison, EM; Friedman, B (1990) *Strategic choices for America's hospitals: Managing change in turbulent times.* San Francisco: Jossey-Bass.

Shrivastava, P; Mitroff, II (1983) Frames of reference managers use: A study in applied sociology of knowledge. In Lamb, R (ed) *Advances in strategic management,* V, 1. Greenwich, Conn: JAI Press.

Shrivastava, P; Schneider, S (1984) Organizational frames of reference. *Human Relations*, 37: 795-807.

Silverman, D (1970) *The theory of organizations*. London: Heinemann.

Silverman, D (1985) *Qualitative methodology & sociology*. Hants: Gower.

Silverman, D (1994) *Interpreting qualitative data.* London: Sage.

Simon, H (1971) Designing organizations for an information rich world. In Greenberger, M (ed) *Computers, communication and the public interest.* Baltimore: John Hopkins Press.

Simon, HA (1976) *Administrative behaviour*, (3rd ed). New York: Free Press.

Skellett, C (1991) Better sewage treatment. *Water Information*, (S6, Jan), WSA.

Smircich, L (1983) Concepts of culture and organizational analysis. *Administrative Science Quarterly*, 28: 339-58.

Smircich, L; Morgan, G (1982) Leadership, the management of meaning. *Journal of Applied Behavioural Science*, 18: 257-73.

Soulsby, PG (1989) The water industry and changing environmental perceptions. *Symposium on new science and technology developments for the future water industry, 20th April.* Gatwick: IWEM, S-E Branch.

Spender, JC (1986) *Strategy-making in business*. Ann Arbor, Mich: University Microfilm Int.

Spender, JC (1989) *Industrial recipes*. Oxford: Blackwell.

Starbuck, WH (1968) Organizational metamorphosis. In Milman, R; Hottenstein, M (eds) *Promising research directions*, 9: 111-137. Greenwich, CT: JAI Press.

Starbuck, WH; Greve, A; Hedberg, B (1978) Responding to crisis. *Journal of Business Administration*, 9: 111-37.

Starbuck, WH; Greve, A; Hedberg, B (1988) In Quinn, JB., Mintzberg, H; James, RM *Strategy process: concepts, contexts and cases*. Englewood-Cliffs: Prentice-Hall.

Starbuck, WH; Hedberg, B (1977) Saving an organisation from a stagnating environment. In Thorelli, HB (ed) *Strategy and structure=performance.* Bloomington: Indiana Uni Press.

Starks, RM (1989) Preparation: The key to crisis control. *Chemical Engineering,* 96, 6, 171-74.

Staw, BM; Ross, J (1978) Commitment to a policy decision: A multi-theoretical perspective. *Administrative Science Quarterly*, 23: 40-64.

Stewart, J; Walsh, K (1992) Change in the management of public services. *Public Administration*, 70, Winter: 499-518.

Strauss, AL (1959) *Mirrors and masks*. Glencoe, IL: Free Press.

Strauss, AL (1987) *Qualitative analysis for social scientists.* Cambridge: Cambridge University Press.

Stinchcombe, AL (1965) Social structure and organizations. In March, JG (ed) *Handbook of Organizations*: 142-194. Chicago: Rand-McNally & Co.

Stubbart, CI (1985) Why we need a revolution in strategic planning, *Long Range Planning,* 18, 6: 68-76.

Stubbart, CI (1989) Managerial cognition: A missing link in strategic management research. *Journal of Management Studies*, 26, 4.

Surveyor (1974a) How the RWAs line up, 1 March: 37-48, 50-5.

Surveyor (1974b) 29 March.

Surveyor (1974c) IWPC Conference gives reorganisation a cool reception, 27 Sept: 11-15.

Surveyor (1974d) 13 Dec: 3.

Surveyor (1975) £60m must be refunded by WAs following Daymond appeal rejection, 5 Dec: 3.

Surveyor (1976) Cutting the pollution according to the river, 7 May: 25.

Sztompka, P (1991) *Society in action: The reorganisation of social becoming.* Cambridge: Polity Press.

Taylor, SE; Crocker, JC (1980) Schematic bases of social information processing. In Higgins, ET, Herman, P; Zanna, MP (eds), *The Ontario symposium on personality and social psychology:* 89-134. Hillsdale, NJ: Erlbaum.

Tearle, K (ed) (1973) *Industrial pollution control: The practical implications*. London: Business Books Ltd.

Terreberry, S (1968) The evolution of organizational environments. *Administrative Science Quarterly*, 12: 590-613.

Tetlow, JA (1985) River water quality. *Proceedings of 1985 symposium on the impact of financial constraints on the levels of service in the water industry,* 4th & 5th Dec, London, 2.3: 1-13. The Institution of Water Engineers and Scientists.

Thames Water Authority (1974/5) *Annual Report and Accounts*: 7.

Thames Water Authority (1978/79) *Annual Report and Accounts.*

Thames Water Authority (1982/3) *Annual Report and Accounts*: 1.

Thames Water Authority (1989/90) *Annual Report and Accounts*, Group Chief Executive's Review: 4.

Thomas, JB; McDaniel, RR (1990) Interpreting strategic issues: Effects of strategy and the information-processing structure of top management teams. *Academy of Management Journal*, 33, 2: 286-306.

Thompson, E (1968) *The making of the English working class*. Harmondsworth: Penguin.

Thompson, G (1990) *The political economy of the new right*. London: Pinter.

Thompson, JD; McEwan, W (1958) Organizational goals and environment: goalsetting as an interaction process. *American Sociological Review*, 23, (Feb): 23-31.

Thorpe, B (1975) Special Session 1, Management in the Water Industry. *National Water Conference, Proceedings Report*, Bournemouth, (March). National Water Council.

Tichy, NM (1983) *Managing strategic change.* NY: Wiley.

Tierno, DA; Sonnenberg, F (1988) "Winging it" results in... Crisis management. *Executive Excellence*, 5, 10: 3-5.

Tinker, J (1975) River pollution: The Midlands dirty dozen. *New Scientist*, 6 Mar: 551-4.

Tocqueville, A de (1946) *Democracy in America*. London: Oxford University Press.

Toffler, A (1981) *The third wave*. NY: Bantam Books.

Toplis, F (1879) National water supply. Suggestions for dividing England and Wales into watershed districts. *Journal Society of Arts,* 4 July: 696-709.

Touraine, A (1977) *The Self-production of society.* Chicago: University of Chicago Press.

Touraine, A (1985) Social movements and social change. In Borda, OF (ed) *The challenge of social change*: 77-92. London: Sage.

Treasury and Civil Service Committee (1982) *Efficiency and effectiveness in the civil service,* 3rd report, Session 1981-82. London: HMSO.

Tricker, TDA; Hutton, PF (1985) Public perceptions of the water industry. *Symposium on the impact of financial constraints on the levels of service in the water industry.* IWES: 4.1.1-8

Trigg, R (1991) *Understanding social science.* Oxford: Basil Blackwell.

Tsoukas, H (1989) The validity of idiographic research explanations. *Academy of Management Review,* 14, 4: 551-61

Tsoukas, H (1994) What is management? An outline of a metatheory. *British Journal of Management,* 5, 4, Dec: 289-301.

Turton, P (1991) Climate change - The implications. *Water Information,* S16, (July). WSA.

Tushman, ML; Newman, WH; Romanelli E (1986) Convergence and upheaval: managing the unsteady pace of organizational evolution. *California Management Review,* XXIX, 1, Fall.

Tushman, ML; Romanelli, E (1985) Organizational evolution: A metamorphosis model of convergence and reorientation. *Research in Organisational Behaviour,* vol 7: 171-222. Greenwich, CT: JAI Press.

UBS Phillips & Drew (1989) *The water industry in England and Wales.* UBS Phillips & Drew Global Research Group, (July).

Ullman, AA (1986) Issues management: Integrating value audits in strategy formation. *Journal of General Management (UK),* 11, 4: 35-54.

United Nations (1970) Integrated river basin development. NY.

Van de Ven, AH; Angle, HL; Poole, MS (1989) *Research on the management of innovation: The Minnesota studies.* New York: Ballinger/Harper & Row.

Van de Ven, AH; Poole, MS (1989) Using paradox to build management and organization theories. *Academy of Management Review,* 14,4: 562-78.

Van Maanen, J (1979a) Reclaiming qualitative methods for organisational research: A preface. *Administrative Science Quarterly*, 24, (Dec).

Van Maanen, J (1979b) The fact of fiction in organizational ethnography. *Administrative Science Quarterly*, (Dec), 24: 539-50.

Van Maanen, J (1988) *Tales of the field: On writing ethnography*. Chicago: The University of Chicago Press.

Vickers, J; Wright, V (1989) The politics of industrial privatisation in Western Europe: An overview in Vickers, J; Wright, V (eds) *The politics of privatisation in Western Europe*: 1-30. London: Frank Cass.

WAA (1987a) Evidence of the Water Authorities Association. *House of Commons Environment Committee: Inquiry into the pollution of rivers and estuaries*, 22 Jan. London.

WAA (1987b) Evidence of the Water Authorities Association. *Royal Commission on environmental pollution: Study of fresh water quality*, 22 January. London.

WAA (1987c) *Privatisation and the regulation of water*, (Oct). London.

Walby, S (1986) *Patriarchy at work.* Cambridge: Polity Press.

Walker, A (1979) *Law of industrial pollution control.* London: George Godwin Ltd.

Walker, A (1990) The strategy of inequality: Poverty and income distribution in Britain 1979-89. In Taylor, I (ed) *The social effects of free market policies.* Hemel Hempstead: Harvester Wheatsheaf.

Walker, D (1976) Water pollution control - the priorities. *Water*, National Water Council, 8, (May): 8-12.

Wallace, RS; Cooke, TE (1990) The diagnosis and resolution of emerging issues in corporate disclosure practices. *Accounting and Business Research (UK)*, 20, 78, 143-51.

Walsh, JP; Ungson, GR (1991) Organizational memory. *Academy of Management Review,* 16, 1: 57-91.

Walsh, K (1991) Citizens and consumers: Marketing and public sector manahgement. *Public Money and Management,* Summer.

Warn, AE (1989) Classification systems and river water quality, new science and technology developments for the water industry. *A one day symposium, 20th April, Gatwick, IWEM*, South-East Branch.

Water Resources Board (1971) *Seventh Annual Report*: 47. London: HMSO.

Water Resources Board (1972) *Ninth Annual Report*: 72-9. London: HMSO.

Water Resources Board (1973) Water resources in England and Wales, 2 volumes. London: HMSO.

Water Resources Board (1974) *Tenth Annual Report*: 47-55, 66-9. London: HMSO.

Water Services Association (1991) *Waterfacts*. London.

Weber, M (1947) *The theory of social and economic organizations* (Henderson AM and Parsons T, Trans). NY: Free Press.

Weick, KE (1979) *The social psychology of organizing*. Reading, Mass: Addison-Wesley.

Weick, KE (1987) Organizational culture and high reliability. *California Management Review*, 29, 2: 112-27.

West, K (1985) Privatisation is good for us. *Symposium on the impact of financial constraints on the levels of service in the water industry*. IWES: 3.1(b):1-10.

Whipp, R (1995) Time and process in the study of strategic change. *British Academy of Management Annual Conference Proceedings*: 213-22.

Whipp, R; Clark, P (1986) *Innovation in the automobile industry: Product, process and work organization*. London: Frances Pinter.

Whipp, R; Rosenfeld, R; Pettigrew, AM (1989) Culture and competitiveness: Evidence from two mature UK industries. *Journal of Management Studies,* 26, 6.

White, RW (1959) Motivation reconsidered: The concept of competence. *Psychology Review*, 66: 297-333.

Whitely, P (1985) Evaluating the monetarist experiment in Britain, Paper for the PSA Annual Conference.

Whitley, P (1987) Taking firms seriously as economic actors. *Organizational Studies*, 8,1: 125-48.

Whittington, R (1988) Environmental structure and theories of strategic choice. *Journal of Management Studies*, 25, 6: 521-36.

Whittington, R (1990) Social structures and resistance to strategic change: British manufacturers in the 1980s. *British Journal of Management*, 1: 201-13.

Whittington, R (1992) Putting Giddens into action: Social systems and managerial agency. *Journal of Management Studies*, 29, 6, (Nov): 693-712.

Whittington, R (1993) *What is strategy and does it matter?* London: Routledge.

Wiener, Y (1988) Forms of value systems: A focus on organizational effectiveness and cultural change and maintenance. *Academy of Management Review*, 13, 4: 534-45.

Wilkins, AL (1983) Organizational stories as symbols which control the organization. In Pondy, LR; Frost, PJ; Morgan, G; Dandridge, TC (eds) *Organisational symbolism*: 81-92. Greenwich, CT: JAI Press.

Wilkins, AL; Dyer, WG (1988) Toward culturally sensitive theories of culture change. *Academy of Management Review*, 13, 4: 522-33.

Williams, G; Mayes, B; Buisson, R (1990) Water privatisation: A case history of action for birds. *RSPB Conservation Review*, 4: 55-61.

Willmott, HC (1987) Studying managerial work: A critique and a proposal. *Journal of Management Studies*, 24, 3: 249-70.

Wills, Sir JC (1975) Management in the water industry. *National Water Council Conference Proceedings*, Bournemouth: 20-1. London: NWC.

Wilson, J (1973) *Introduction to social movements*. New York: Basic Books.

Winter, S (1981) Attention allocation and input proportions. *Journal of Economic Behaviour*, 2: 31-46.

Wiseman, R (1974) Sewage works: A legacy of neglect. *New Civil Engineer*, 22 (Aug): 28-31.

Wolfe, J (1991) State power and ideology in Britain: Mrs Thatcher's privatisation programme. *Political Studies,* XXXIX: 253-69.

Woods, DR; Noone, GP (1985) The evolution and development of operational practices. *Water Pollution Control*: 168-77.

Woodward, GM (1974) *Pollution detection and river quality management*. Society for Water Treatment and Examination, autumn meeting, Royal Leamington Spa.

Woodward, RE (1967) The Water Resources Act 1963. Symposium on the conservation and reclamation of water. London: *The Institute of Water Pollution Control.*

Yin, R (1984) *Case study research: Design and methods*. Beverly Hills, CA: Sage.

Young, S (1986) The nature of privatisation in Britain, 1979-85. *West European Politics*, 9: 235-52.

Zald, M (1987) *History, sociology and theories of organisation.* Working Paper, University of Michigan, Ann Arbor.

Zeitz, G (1980) Interorganizational dialectics. *Administrative Science Quarterly*, 25: 72-88.

APPENDIX 3.1: INTERVIEWEES

SEVERN TRENT

1. David Woods	Director of Environmental Affairs	100 mins
2. Bob Breach	Head of Quality and Environmental Services	75 mins
3. John Martin	Principal Advisor Effluent and River Quality	120 mins
4. Vic Cocker	Managing Director	60 mins
5. John Hall	Director of Planning	120 mins
6. Jeff Dolby	Senior Quality Officer NRA	90 mins
7. Mike Farrimond	Head of Technology Dept	60 mins
8. Brian Duckworth	Director of Finance and Regulation	60 mins
9. Dave Brewin	Regional Water Quality Manager NRA	60 mins
10. Pete Whally	Quality Planner NRA	60 mins
11. Mike Upstone	Director Customer Service	60 mins
12. Vince Howell	Manager Quality Assurance	60 mins
13. Roderick Paul	Chief Executive	90 mins
14. Frank Earnshaw	Former Group Deputy Chief Executive	150 mins
15. Fred Lester	Former Director Scientific Services	90 mins
16. Colin McMillan	Former Director of Finance	20 mins
17. Sir William Dugdale	Former Chairman	90 mins
18. Bob Hattersley	Former Divisional Manager	110 mins
19. John Bellak	Chairman	60 mins
20. Joe Stephens	Director of Services	105 mins

THAMES

1. Bill Harper	Deputy Chairman	90 mins
2. David Stratford	Planning & Support Manager Regulatory	90 mins
3. Bill Stanley	Former Planning & Regulation Unit Manager	75 mins
4. Tony Turton	Remuneration & HQ Personnel Manager	60 mins
5. Les Jones	NRA Manager	60 mins
6. Graham Johnson	Head of Legal Section	60 mins
7. Geoff Littlewood	General Manager Water	90 mins
8. John Sexton	Environmental Science Director	75 mins
9. Ian Adams	Regional Scientific Manager NRA	60 mins
10. Ron Howes	Administrator Accomodation Works	75 mins
11. David Turnball	Network Services Manager	90 mins
12. Mike Hoffman	Group Managing Director	60 mins
13. Ian Benstead	Planning & Support Services Manager	120 mins
14. Mike Ribbins	Director of Techology	90 mins
15. Peter Black	Former Chairman	20 mins
16. Peter Spillett	Strategic Planning Manager	105 mins
17. John Lawrence	Manager Sewage Operations	105 mins

Appendix 3.1: Interviewees

WSA		
Peter Hall	Deputy Director	40 mins
OFWAT		
Alan Booker	Deputy Director General	60 mins
DoE		
John Hall	Senior Executive Officer Water Services Division	30 mins

APPENDIX 3.2: INTERVIEW PRO FORMA

1. PERSONAL DETAILS

Current job title and duties
How long with organisation
Academic background
Employment before this organisation

1.1. Career

Positions occupied within organisation
Location at HQ/ Divisions
How long
Involvement in policy (level and influence)

2. ORGANISATIONAL DEVELOPMENT

Key changes within STW/TW since 1974
- comment on reorganisation
- comment on main structural changes
- comment on MMC referral (STW)
- comment on 1979 change of government
- comment on 1982 structural changes
- comment on 1983 Water Act
- comment on main changes/developments during 1980s
- comment on privatisation
- comment on NRA
- comment on 1989 Water Act and after

What were the different management styles and working practices in each period?
What were the types of cultures which existed?
What was the political atmosphere like?

3. LEADERSHIP

What were the main attributes of the different CEOs
What characterised their style of leadership
How much control over the strategy of the organisation
What were the attributes of the different Chairmen
What characterised their style of leadership
How involved in policy of organisation
How significant was the Director of Scientific Services
How significant was the Director of Operations
How significant was the Director of Finance/Planning
How significant were Divisional Managers
- which were the powerful ones
- style of leadership
- control over policy

4. POLICY MAKING IN PUBLIC SECTOR

How much was organisationally defined/driven as opposed to externally driven
What were the key changes to policy during the period as an authority
How proactive/reactive was the organisation
What were the management goals
How much consensus was there within the organisation
What key issues were on the agenda during key periods: formation, integration, nationalisation, commercialisation, privatisation
How did coding of the capital programme influence policy
Relations with the DoE/Treasury
How did this change over time

4.1 RWQ Issue

How did RWQ feature as an issue over time
- at what time was it important/high on the agenda
- why was this
- at what times was it less important/ low on the agenda
- why was this/ what issues were more important and why

Was the importance of RWQ driven by internal or external events

4.2 How did Policy Making Work

- at divisional level (comment on before and after 1983)
- how important were divisions in policy making
- at HQ (before and after 1983)
- who was driving policy

4.3 Effects on Policy making from:

- local authorities
- the LA Board
- Directorate of Scientific Services
- the Water Quality Advisory Panel
- the restructuring of divisions
- smaller Boards
- preparations for privatisation

4.4 The Political Behaviour of Management

How much consensus between management
Did they operate as a team
changes during key periods
preparation for privatisation on team
Comment on group behaviour, conflicts, power, tactics to gain resources

5. REGULATORY ROLE

How effective over time
Were there divisional differences
Did regulation conflict with divisional/authority policy
Were there tensions and conflicts

Was this role ever compromised
- effect of 1975 & 1982 structural changes in STWA
- comment on DoE special ruling on consents
- the effect of resetting consents
- the effect of delaying RWQOs
- the effect of the delay in implementing Part II COPA

How evenhanded was the organisation in dealing with industry and external polluters
The impact of EC directives
The influence of pressure groups
How did organisation's performance in regulation compare with other WAs
Reaction to NRA announcement

5.1 Water Quality Advisory Panel
Its role during the time of the authorities
How effective in support of the regulation function
How useful in pushing RWQ as an issue to management
The significance of the Water Quality reports in STWA

5.2 Pollution Control
What did your work entail
Did you feel an important and central part of the organisation
Comment on experiences of 1982 move into divisions in STWA
- did performance in role change
- relations with staff
- relations with trade effluent control
- relations with operations
-relations with management

The main changes to working practice
Changes to policy on RWQ
Power to promote concerns
How were concerns promoted - examples
The main constraints upon action

6. DIVISIONAL CONTEXT
Who was your divisional manager - what sort of leadership
What was your experience of divisional management
Relations with the big Board/small Board
- influence on policy

How was policy and decision making carried out before 1983
- how were issues presented for discussion
- how much consensus
- how was conflict managed
- strategic issues the same or different between divisions
- how important was RWQ
- how important was DWQ
- how important were effluent standards

- how important were RWQOs
Main constraints on policy making
The impact of the structural changes before 1983 on decision making

6.1 Divisional Culture
How powerful was your division
The extent of the influence of an earlier culture in predecessor organisations
Main differences between the divisions
How important and powerful were divisional managers generally

6.2 Policy Making After 1983
How was policy and decision making carried out
- how did this affect relations with HQ
- what were the key issues during the 1980s
- how were issues presented for discussion
- how much consensus
- how was conflict managed
- strategic issues the same or different between divisions
- did these issues change as privatisation came on the agenda - how - examples
- how important was RWQ
- how important was DWQ
- how important was effluent standards
- how important were RWQOs

7. RWQ PERFORMANCE
What/who were the main drivers for the establishment of RQOs
How do you view the performance of the organisation in achieving RQOs
How does this compare to other WAs
What was your impression nationally of RWQ
To what do you attribute the initial steady improvement of the rivers
What were the main causes of the improvement/deterioration in the 1980s
- did this concern the authority
- what actions were taken
What were the main causes of the slowing trend, deteriorations in 1990 survey

8. STANDARDS
What was the main driver for the debate over standards
- the role of the NWC
What was the impact of the NWC classification scheme
The impact of the change from BOD to BOD (ATU)
The implications of the move to the 95th % standard
The implication of the DoE ruling on consents
- how viewed by operations
- how viewed by pollution control
Was it a fudge to set consents to the capabilities of the works
- how was this viewed generally within divisions

- by the industry
How do you view the problem of setting effluent standards
- is it a precise science

9. STAKEHOLDERS

Who were the main stakeholders with an interest in RWQ
- the influence of the DoE
- the influence of angling groups
- the influence of environmental groups
- the influence of EC legislation
- the role of HMIP

10. SUMMARY OF PUBLIC SECTOR

How would you describe the importance of RWQ for organisation at this time
- type of issue: technical, economic, scientific, engineering?
The effectiveness of the regulatory role in the public sector

11. POLICY MAKING IN THE PRIVATE SECTOR

What have been the main changes to policy and decision making since 1989
- the most important issues on the agenda
How important are divisions now
How much is organisationally defined/driven as opposed to externally driven
How proactive/reactive is the organisation
What are the management goals
How much consensus is there within the organisation
Relations with the City

11.1 Structure

Key changes since privatisation
- impact on work practices

11.2 River Water Quality

How has the issue changed for the organisation in the private sector
- how high or low on strategic agenda
What are key drivers for compliance now
Expected performance in achieving RQOs

12. NRA

What happened to relations initially on formation of the NRA
- how did relations develop
Relations after privatisation and now
How are agreements negotiated
- what tactics are used to bargain on both sides
- power relations between the WSCs and NRA

13. REGULATION

Relations with OFWAT

- development of that relationship over time

Relations with DWI

Relations with DoE

Relations with HMIP

How does the organisation *manage* its regulators

How are relations between regulators

Impact of Environmental groups

	1973	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94
MACRO ENV		LABOUR	Drought Moratorium Green Paper White Paper				CONSERVATIVE EC Drinking Water Directive							White Paper NRA Paper					EC Urban Waste-Water Directive			
INDUSTRY	WATER ACT 10 WAs	COPA I	Daymond Case				DoE Consents review Financial targets	Statutory Financial Controls CCA Performance Aims		Strike	WATER ACT NWC abolished WAA established	DoE Consents review	Privatisation Discussion paper		COPA II	WAs to be floated	WATER ACT 10 WSCs WSA	Euro Envtal Agency				
			DoE Survey				NWC Survey							DoE Survey				NRA Survey				
SEVERN TRENT CHAIR	W. Dugdale										J. Bellak											
CEO	M. Nixon	J. Beddoe			D. Reeve									R. O'Brien		R. Paul		V. Cocker				
STRUCTURE	28 div		8 div								4 div & operating districts			15 operating districts								
REGULATION	WQ report		Rivers Division abandoned							Sc Services disbanded PC into divisions						NRA unit						
							Manpower cuts MMC															
THAMES CHAIR	P. Black						G. Edwards				R. Watts											C. Lever
CEO	A. Morrison						H. Fish						K. West	W. Harper				M. Hoffman		W. Alexander		
STRUCTURE	9 div								6 div	Operations & Planning merge			4 div	Centralised support functions				2 div + operating districts				
REGULATION									Conservancies merged into divisions					2 conservancies re-established				NRA unit				
							Surplus sold			Manpower cuts			Privatisation campaign			campaign against independent regulator		Logistics Project			Customer Service Bureau

APPENDIX 3.3: CASE STUDY CHRONOLOGIES

APPENDIX 4.1: HISTORY OF THE WATER INDUSTRY 1843-1994

Pre-industry Developments

1843-45 Royal Commission enquired into the water supplies of large towns and populous districts in Eng & Wales. Resulted in:

1847 Waterworks Clauses Act covered such matters as rights to break up streets and obligations to supply water constantly in sufficient quantity and at reasonable pressure to all houses demanding it and for cleansing sewers and fire fighting. Another clause made it an offence to foul drinking water supplies.

1848 Public Health Act established a Central Board with power to set up Local Health Boards.

1865-67 Rivers Pollution Commission recommended legally controlling the management of rivers and their watersheds.

1867 Franchise Reform Act gave LAs powers.

1869-71 Royal Sanitary Commission advocated watershed areas controlled by an authority.

Emergence: 1867-85

1870, 73 Gas & Waterworks Facilities Acts.

1875 Public Health Act.

1876 Rivers Prevention Pollution Act .

1878 Public Health (Water) Act made it duty of all rural auth to provide supply of water to houses in their area.

1882, 88, 94 Local Govt Acts created urban and rural district councils.

1885 Royal Commission on the Housing of the Working Classes

1885 Provincial Water Companies Association formed

Continuity: Municipal Consolidation 1885-1942

End C19th Formation of British Assoc of Water Works Eng & Assoc of Sewage Managers

1893 Rivers Pollution Prevention Act

1900-10 three Royal Commissions recommended the need for a central auth to control rivers for conservation.

1910 Lord Desborough's Water Supplies Protection Bill - Parlt dissolved before it could be introduced.

Indus: In Eng & Wales 2,160 water suppliers, 152 statutory companies established by parliament. Three quarters of Eng & Wales had piped water supply of which two thirds provided by municipal auth. Led to:

1911 Formation of Municipal Waterworks Assoc.

1914 Outbreak WWI, all schemes for new water supply legislation halted.

1922 Water Power Resources Committee recommend Water Commission resp to Min of Health. Constituted an advisory committee of engineers, the driving force for a national water policy.

1925 Measures for the Protection of Underground Water Report suggested new legislation.

1927 Water Pollution Research Lab established by Govt.

1931 Economic crisis - Advisory Committee on water suspended.

1936 Public Health Act enabled Minister to constitute Joint Board to control water supply, CAWC re-established: advised Minister's powers be extended to authorise amalgamation and acquisition of water undertakings (municipal or private).

1937 Public Health Act enabled LAs to enter a premises and sample effluent. The resulting analysis could then provide the basis for legal proceedings against the discharger, the penalties for which were also laid down in the Act.

Indus: Approx 1,000 water undertakings in Eng and Wales: 50 county councils, 150 borough councils, 300 urban district councils, 300 rural district councils, 33 joint water boards and 173 companies with statutory powers. Pop of 27 million supplied by LAs and Boards, 6 million by private water companies.

Reorientation: A National Water Policy 1943-48

1943 CAWC issued 3rd report recommending formation of River Boards

1945 Water Act: groupings of smaller water undertakings into Joint Water Boards, under political control of MHLG. Assoc of Water Officers formed to promote advancement of technology and administration.

1948 River Boards Act created 32 Boards covering whole of Eng & Wales except Thames and Lea.

Continuity: Rationalisation 1949-71

1951 Rivers (Prevention of Pollution) Act instead of relying on the identification of damaging discharges as and when they occurred, required would-be dischargers to apply for permits (consents) to River Boards before making any new discharge. Required each RA to maintain a register of conditions attached to consents but restricted persons from inspection of premises.

1958 First DoE RWQ Survey: poor RWQ.

1961 Rivers (Prevention of Pollution) Act was essentially designed to bring the 1951 Act up to date by ensuring the upkeep of cleanliness of rivers and other inland or coastal waters in England and Wales. Acts were concerned with the issues of: (i) criminal offences for polluting rivers, and (ii) the licensing of outlets and discharges to streams (Hanley et al, 1991). Within the Acts, provision was also made to lay before Parliament the annual reports of the river boards (Tearle, 1973). It also made it a criminal offence to disclose any information obtained in connection with an application for consent to discharge, the imposition of conditions on a polluter, or information concerning a sample of effluent. Both Acts, however, preserved the common law right of a riparian owner to obtain an injunction against an upstream polluter without having to prove actual damage.

Until passage of the Rivers (Prevention of Pollution) Acts 1951 and 1961, the river boards' powers embraced only the limited scope of the Rivers (Prevention of Pollution) Act 1876. These new Acts: *...to make new provision for maintaining or restoring the wholesomeness of the rivers and other inland or coastal waters of England and Wales* (Okun, 1977:21), put restrictions upon the discharges of pollutants to rivers and established a system of consent by river boards for discharges to rivers. Essentially, these Acts applied to discharges to non-tidal rivers. Control over tidal rivers and estuaries under the Clean Rivers (Estuaries and Tidal Waters) Act 1960 was restricted to new or substantially altered discharges. All discharges could, in theory, be controlled with a Tidal Waters Order but, up to 1970, only 14 such orders had been made and none on any of the major polluted estuaries.

1963 Water Resources Act created 29 river authorities (RAs) with responsibility in their areas for land drainage (including flood control), fisheries and prevention of pollution, as performed by the river boards and would add responsibilities for the development of water resources. They also were to initiate hydrologic data collection programs and surveys of current resources and anticipated requirements prepatory to initiating programs of development. Most important, while continuing to have power to grant consents for discharges into their rivers, the new river authorities were to have, through licensing, and charges for licenses and abstraction, complete control over the abstraction and impounding of waters in their domains. Govt established WRB to plan nation's future requirements.

The RAs were to control discharges of sewage and trade effluent or any poisonous, noxious, or polluting matter into underground strata by means of well, borehole or pipe; in a way similar to the consent procedure used to control discharges of effluents to streams under the Rivers (Prevention of Pollution) Acts 1951-61. RAs may revoke or vary consents, and have to keep a register of consents. They were also to have the power to acquire land and control new discharges into underground strata.

Recreation: Reorganisation 1968-73

1969 Royal Commission on Local Govt recommended reorganising municipal bodies and water supply service as they were inadequate to cope with inc water pollution.

1971 CAWC report called for sweeping reduction in number of separate units in sewage disposal and water supply.

1973 DoE RWQ Survey: slow but steady improvement.

Community Action Programme on the Environment had the following 3 specific aims. First, to prevent or reduce pollution and nuisances, next to husband natural resources and the balance of ecological systems; and inally, to improve the quality of life and working conditions. Improvements in WQ were given further potential impetus when the UK joined the EC (Hanley et al, 1991).

Indus: 29 RAs, 160 water undertakings, 1,300 sewerage authorities.

1973 Water Bill: 10 regional auth created, WRB abolished and NWC created. RWQ, standards of sewage tmt and potential for water resource now linked.

Convergence: Integration 1974-79

1974 new units in operation just as Labour Party gain office. WRC established Control of Pollution Act Part II ...*complements the Water Act 1973 to provide a fairly radical reform of the control of pollution of waters. It brings a wider class of waters under control, and gives increased rights to the individual. The Rivers (prevention of Pollution) Acts are repealed almost entirely, and most of their provisions re-enacted in amended form* (McLoughlin, 1975).

The major contribution of this Act was to add statutory control of underground, tidal, and coastal waters (as far as the territorial limits) to the inland waters previously controlled, all termed 'relevant waters'. An important element in the Act is that a known discharge of poisonous, noxious or polluting matter to the relevant waters is an offence unless the discharge was authorised by statute, a consent granted under the Dumping at Sea Act 1974. The most important part of the Act is in the extended powers given to the WAs to control discharges of municipal and industrial wastewaters. The consent conditions procedures which had been part of the administrative structure for discharges for many years, are strengthened under the Act. The teeth of the Act apply primarily to industry, as the control of the WA's own discharges will inevitably fall under internal WA regulations.

Consents are to be subject to review over periods of not less than two years, when changes in the consent conditions can be made. Consents for the WA discharges from its own treatment facilities may be given by the Secretary of State for the Environment, but this is uncertain as the poacher-gamekeeper relationship of the WAs is not addressed in the Act. As with authority for metering in the Water Act 1973, the Act authorises the Secretary of State, after consultation with the NWC, to enable WAs to impose effluent charges on industrial effluents discharged direct to rivers and widens their existing powers to charge for effluents discharged to sewers. These charges would be imposed according to the character and volume of the discharge.

1975 DoE RWQ Survey: continued improvements.

1976 Drought in SE, SW & Midlands, public resp showed recog of water as a variable resource.

1976-77 Moratorium on capital expenditure due to BOP difficulties.

1977 White Paper proposed inc local govt infl and privatising statutory water cos - never legislated. NWC consultation paper and problems with implementation of COPA.

1978 NWC consultation doc on RWQ.

Reorientation: Nationalisation 1979-83

1979 Conservative govt elected, WAs approve revised list of NWC's WQOs. Intention by govt to bring part 2 of COPA into operation by end of year.

1980 NWC RWQ survey: continued improvements. EEC drinking water directive.

1981 Wildlife & Countryside Act, Govt decide water indus borrowing should decrease: financial restructuring.
1983 Water Act: LA majority on WA Boards abolished, NWC abolished, WAs set up non-statutory WAA.

Continuity: Commercialisation 1984-87

1985 Jan, House of Lords ques water price inc above rate of inflation. Roy Watts presses for consideration of privatisation.
end Jan, Thatcher issues cautious speech on privatisation.
Feb 7, Ian Gow announces possibility of a measure of privatisation.
April, discussion paper published.
June-July, govt completed review of quality of all drinking water.

1985 RWQ survey: showed for first time deteriorations since 1958.
1986 Feb, White Paper: *Privatisation of WAs in Eng & Wales.*
Mar & Apr, Green Papers: *Water and Sewage Law & The Water Env: the Next Steps.*
1986 COPA II Act consolidates various existing powers for pollution control. Extends control to existing discharges to tidal waters (estuaries and coastal waters) previously only new discharges to tidal waters as well as all discharges to rivers, were controlled. Act also makes provision for control or prohibition of specific activities or use of specific chemicals either nationally or within specific areas. Also opened pollution control to full public participation. Allows public access to information and prosecution by private individuals.

The main pollution control power is the consent. Only those discharges which have a consent are allowed. Applications for consent to discharge must be advertised. Representations may be made by the public who have right of appeal to the Secretary of State if they object to intentions of a WA, as does the discharger. Appeals by the public may result in a Public Inquiry. However, advertising is not required if the discharge does not have an 'appreciable effect'. Such an effect is defined by the DoE.

Consents are issued by the Secretary of State for WA discharges. WAs for all other discharges. Two types of consents are allowed:
1. Descriptive consents applying to works - serving a population of less than 250, receiving no trade effluent; having no significant effect on the quality of the receiving watercourse. These consents do not quantify the quality of the discharging effluent. Generally works serving a population of less than 250, which have numeric consents are those upstream of an abstraction plant.
2. Numeric consents which state effluent discharge quality. (Neither COPA II nor any other legislation gives guidelines on how standards for discharges should be set). Only EEC directives provide such guidelines. The 1973 Water Act does however state a general duty of WAs of restoring or maintaining the wholesomeness of rivers. It is only via this general duty and the ability to give consents that pollution is controlled and EEC directives are implemented.
(UBS Phillips & Drew, 1989:21&108; Mathews and Mance, 1986)

COPA provides some interesting powers to combat pollution. Section 46 allows pollution to be remedied or forestalled. For instance, the powers allows authorities to re-stock rivers after pollution and to recover costs; this is a useful addition to the opportunities to recover costs under Civil Law (Mathews & Mance, 1986).

Recreation: Privatisation 1987-89

1987 May, Ridley announces Govt revised plan for privatisation: NRA.
July, discussion paper: *The NRA: the govt's proposals for a regulatory body in a privatised water industry.*
Dec, govt reaffirms intention to create NRA.
1988 Water Bill: The Public Utility and Water Charges Act.
Dec, RSPB & CPRE commissioned report published: *Liquid Assets.*
1989 July, Water Bill receives Royal Assent.

Water Act: Under section 84 the NRA is specifically responsible for WQ in all controlled waters. This includes the determination and issuing of consents for discharges into controlled waters, the monitoring of the extent of pollution in such waters, plus achievement of WQOs. The NRA has number of interrelated tasks to accomplish over the next 10 years in relation to WQ: 1. assess the current status of controlled waters; 2. assist the DoE in production of a classification scheme for controlled waters and in derivation of WQSs and WQOs; 3. review and where necessary revise, consents for discharge to ensure that WQOs are met. The purpose of River Quality Survey in 1990 in relation to 1 above, was in part to implement the requirements relating to the classification of controlled water and the need to derive SWQOs. Under section 145 the NRA is entitled to make charges for consents to discharge.

Nov 22 WSPLCs floated on stockmarket

Continuity: Private Sector 1990-95

1990 RWQ survey by NRA: deteriorations since 1985. Environmental Protection Bill.

1991 Water Indus Act, Land Drainage Act & Water Consolidation (Consequential Provisions) Act. EC Directive on Urban Wastewater Treatment requires all sewage works discharges serving an equivalent pop of 2,000 or more discharging to rivers or inland tidal waters to provide secondary treatment to a 95 percentile standard of 25 mg/l BOD (ATU) and 125mg/l COD. It also requires that surface waters sensitive to eutrophication or, if abstracted for potable use, liable to fail nitrate limits in the Surface Abstraction Directive, be designated as "Sensitive Areas". Discharges to such areas are liable to require nutrient removal. The provisions will come into effect between 1998 and 2005 (FWR, 1991a).

1991 EC Directive on the Control of Nitrates from Diffuse Sources provides protection of drinking water from nitrate contamination. Areas at risk have to be designated as 'vulnerable zones'. Member States have 2 years to identify zones and further 2 years to draw up action programmes to reduce nitrate leaching. After this a 4yr implementation period is allowed (FWR, 1991b).

1992 Decision to establish new Envtal Agency combining NRA and HMIP.

1994 Periodic Review.

APPENDIX 4.2: LEVELS OF SERVICE INDICATORS IN THE WATER INDUSTRY

Different levels of service indicators applied to different activities carried out by WAs. However, they all followed the same rationale. A formal definition of level of service was the extent - stated in percentage or number terms - that a particular service aspect (pressure, quality etc) failed to meet a reference standard of service. In some cases the reference standard of service was nationally set such as drinking water quality. In other cases the reference standard was set regionally. The table shows the level of service indicators that were required by the DoE from each WA. WAs used these indicators (along with others to cope with regional peculiarities) to measure the service they gave customers.

DoE - Level of Service Indicators

Service	Indicators
Water supply	
- Connections	Number of new properties connected.
	Number of new connections not made in due time.
- Quantity	Population whose water resources are unreliable.
	Population with inadequate pressure.
	Population losing supply for more than 12 hours.
- Quality	% samples failing bacteriological quality*.
	Volume supplied failing chemical standards*.
	Volume supplied failing acceptability standards*.
Sewerage	Number of new properties connected.
	Number of properties flooded from sewers.
	Number of unsatisfactory storm overflows.
Environmental	River quality - % not satisfying objectives.
	Estuarial quality - % not satisfying objectives.
	Population connected to unsatisfactory sea outfalls.
	Pop whose sludge is disposed unsatisfactorily*.
	Sewerage treatment works failing consents.
Land drainage/	Area with unsatisfactory drainage/flood protection.
Flood protection	Km main river with unsatisfactory flood defences.
	Km tidal sea defences unsatisfactory.
	Area not covered by flood warning scheme.
Customer Contact	Measures of timely response - emergencies, correspondence, administration, billing.

* Standards related to EC directives Source: UBS Phillips & Drew, 1989:14

APPENDIX 5.1: THE ROYAL COMMISSION STANDARD 1912

Sewage Effluent Quality Standards

The quality of discharge was determined by the degree of dilution available in the receiving watercourse to avoid nuisance. For differing dilutions the acceptable BOD of the treated sewage effluent would vary accordingly (Mathews & Mance, 1986). These criteria held for the concentration of suspended solids and biochemical oxygen demand in treated sewage effluents: Thus for a 8:1 dilution, a sewage effluent of 20mg.l^{-1} BOD discharging to a clean river water of 2mg.l^{-1} BOD would only cause an increase of river water BOD immediately downstream of the discharge to 4 mg.l^{-1}; subsequent self purification processes would reduce this towards the "unpolluted" criterion of 2 mg.l^{-1} BOD (Tetlow, 1985: 2.3.1). In effect this was an early application of achieving desirable environmental quality objectives by providing a degree of sewage treatment that related to the dilution of the receiving watercourse in order to prevent the development of an unacceptable RWQ (Mathews & Mance, 1986:2).

Because the cost of conventional biological 'secondary' treatment facilities to meet this standard was not regarded as unreasonable, local authorities had the burden of justifying a more relaxed consent condition. Where the dilution was not available, where the quality of the diluting water was not satisfactory, or where the use to which the water was to be put required a stream of exceedingly high quality, the proof for a more stringent standard was on the regulatory authority. However, over the years, sewage treatment processes tended to become standardised to achieve a general sewage effluent quality of 30mg/1 suspended solids and 20mg/1 BOD, irrespective of the dilution provided by the receiving watercourse. This became known as the Royal Commission Standard (Mathews & Mance, 1986; Okun, 1977:206).

Potable Water Quality Standards

The absence of formal standards laid down by regulation has been regarded as advantageous. The results of new research indicating the significance of the concentration of any particular constituent in water can be considered and implemented without having to wait for the revision of a Statutory Instrument. Furthermore the circumstances of the individual supplies may sometimes have to be taken into account in determining a practical solution. There is inevitably a large arbitrary element in the setting of any standards since the determination of border line cases between the concentrations which have no effect, those which might have an effect and those which have a demonstrable effect is a difficult medical problem and adequate evidence is frequently not available. (Department of the Environment, 1973; Okun, 1977:185)

Because of the difficulties associated with deciding upon appropriate levels to be included in publications of standards, the practice in the UK has been to rely on the description of 'wholesome'. While 'wholesome' was not defined in the Water Act it had been taken to imply clear, palatable and safe and the final decision as to the wholesomeness of any particular water supply would rest ultimately in the hands of

a court of law. In practice however:...*authorities have utilised published works of reference including in particular the World Health Organisation's European Standards*...(Department of the Environment, 1973). To provide guidance as to bacteriological quality, the DoE and Department of Health and Social Services have recommended standards for micro-organisms in potable waters. Some WAs used these standards while others adopted a different approach. International standards for chemical quality were generally used as guidelines. Each WA was free to use these standards as guides as it wished and to apply them differently within their own areas. One tactic often used for setting standards for organic chemical contaminants is the dilution of water that fails to meet standards with water from a purer source, so that the final distributed product meets the standards. As the areas served by a single authority become larger, such flexibility becomes greater.

APPENDIX 5.2: THE CONSENT SYSTEM

1. As a result of the 1951 and 1961 Acts, consents can be granted either unconditionally or conditionally, with respect to the siting of the outlet, its construction and use and to the nature, composition, temperature, volume and rate of discharge of the effluent. These prescribed conditions of maximum flow rate and minimum quality, are aimed at insuring that effluents do not cause an unacceptable depreciation in the quality of the receiving streams. If the quality of the stream is not satisfactory below the point of discharge, while remaining satisfactory upstream, then either compliance with consent conditions has been unsatisfactory and remedial action at the works is needed, or the consent conditions themselves require modification (Okun, 1977:207). Also, dischargers assumed an obligation to allow the sampling of effluent by the relevant authorities. Whilst the 1951 Acts applied to new discharges only, the 1960 Acts extended control to existing sources as well. There have been criticisms of the consent system as a *de facto* right to pollute (Pezzey, 1988).

As a result many polluting trade effluent discharges were diverted to sewer for treatment in admixture with domestic sewage under the provisions of the 1937 Public Health (Drainage of Trade Premises) Act and later amendments.

2. From 1977 the NWC classification scheme adopted a system of consents based on an annual 95th percentile compliance. This was a new special rule invented by the DoE for the consents related to WA's own discharges. This arose from the Secretary of State's role in authorising those discharges, and took the form of a condition requiring only 95 per cent compliance on average in a year. The time period is usually 12 months but not necessarily so for certain discharges, a shorter period of 6 or even 3 months may be required. This meant in effect, that excessive pollutions on any given day were only offences if evidently committed in more than 5 per cent of the samples taken, and that no offence could be proved or punished (unless the authority pleaded guilty) until the end of the year, or the averaging period in which it occurred (National Rivers Authority, 1990).

3. This system was in some people's eyes a device to shut out prosecutions and, as approval related only to sewage works discharges, it appears a special benefit to the WAs as sewage works operators. On the other hand, there is an argument that the biological processes of sewage works are more likely to vary for external reasons (such as temperature) than chemical processes (from which many factory effluents arise). Thus sewage works consents need, it is said, to be more flexible and it is the average impact on the river which is significant.

The argument for such an averaging of standards was taken up by Warn (1989) who was against accepted quality standards being defined as Absolute Limits or Maxima (Barnden et al, 1986; Ellis, 1988). Failure to follow this line leads to a risk of misleading assessment of performance and as a consequence, a waste of resources on undeserving sites and projects, and failure to detect more important cases. Absolute standards also produce arbitrary planning. From the point of view of

efficient use of resources spent on monitoring, RQ standards should have been defined as averages. The 95 percentile was chosen instead because it embodies in a single number, a description of average quality and spread about average and lies on the poor side of average quality and so approaches extreme values which might cause events like fish kills. The low precision with which the 95 percentile can be estimated from 12 samples taken in a year is caused by an element of chance in sampling. Sampling error has the potential to ruin any ill-considered and untested scheme for classifying RWQ because it leads to hundreds of false declarations of a change in class.

The latter part of this argument, that it is the average impact of the river which is important, does not really convince Kinnersley (1988:124). He argues that the natural regime is endlessly varying. If the major discharges are also authorised to vary greatly, there is no link co-ordinating the discharges of the greatest polluting loads with the periods of maximum flow and dilution. Water damaged in quality certainly flows on, but its malign effects on fish life and vegetation - and on abstractions made from it - are not cancelled out. Moreover, the variability of sewage works performance, especially at small works, argues strongly against removing from them the staff who could respond to varying conditions of performance.

4. The concept of 95 percentile compliance was formally embodied in the new consents in 1985 by incorporating in the consents the "look-up-table" which specifies an allowed number of failures depending on the numbers of samples taken. This is essentially a statistical test for non-compliance. In the assessment of NWC class there is a strong element of subjective opinion as rivers are highly variable and if sampled punctiliously on data from existing sampling regimes, many stretches of rivers would jump from Class to Class from year to year. As this behaviour is unacceptable it is avoided by allowing the assessor to use his or her judgement. The correct procedure is to make a proper statistical assessment of class. A Look-Up-Table, derived in conjunction with the DoE, decides whether a works has failed. This table controls the effect of sampling, so that a works is classed as failed only if there is a fair degree (95%) of confidence that it really has failed. As a result, there is a definite risk (<5%) that money will be spent on improving a works which did not fail. This risk can be made as small as necessary by choosing the appropriate statistical confidence level (Tetlow, 1985:2.3.7).

APPENDIX 5.3: DoE RIVER CLASSIFICATION SCHEME

In its classification of rivers, the DoE established four quality classes:

Class 1 - Rivers unpolluted and recovered from pollution
Includes rivers that are known to have received no significant polluting discharges or, through receiving some pollution, have a BOD of less than 3 mg/1 and are well oxygenated.

Class 2 - Rivers of doubtful quality and needing improvement
Includes rivers not in class 1 on the basis of BOD and which have a substantially reduced DO level at normal dry summer flows or regularly at other times; or which irrespective of BOD, are known to have received significant toxic discharges which cannot be proved to have had harmful effects.

Class 3 - Rivers of poor quality requiring improvement as a matter of some urgency
Includes rivers not in class 4 on BOD grounds, and which have below 50 percent DO saturation for lengthy periods; or which contain substances which are suspected of being actively toxic at times; or which have been affected by the discharge of solids in suspension; and which have been the subject of serious complaints.

Class 4 - Grossly polluted rivers
Rivers having a BOD of 12 mg/1 or more under average conditions; known to be incapable of supporting fish life; which are completely deoxygenated at any time, apart from times of exceptional drought; which are sources of offensive odours; and which have an offensive appearance.

Source: Department of the Environment, *Report of a River Pollution Survey of England and Wales* 1970, HMSO, Vol 1, 1972; Vol 2, 1972; Vol 3, 1974; updated 1973, 1975.

APPENDIX 5.4: THE NWC RIVER CLASSIFICATION SCHEME

Class 1A Rivers - Good Quality suitable for potable supply abstractions and contain no significant polluting discharge
Average BOD less than 3mg/1. Oxidation of settled sludge almost complete. Widely diverse invertebrate fauna. Game fishery or good mixed coarse fishery. High amenity value.

Class 1B Rivers - Less High Quality than 1A but usable for substantially the same purposes.
BOD not greater than 5mg/l. Visible evidence of pollution should be absent.

Class 2 Rivers - Fair Quality with substantially reduced dissolved oxygen content at times.
BOD not greater than 9mg/l. Contains significant polluting discharges. Suitable for potable supply after advanced treatment. Reasonably good mixed coarse fishery. Moderate amenity value.

Class 3 Rivers - Poor Quality with dissolved oxygen concentration less than 50% saturation for considerable periods.
Contains substances suspected of being actively toxic at times. Variety of macroscopic invertebrate fauna restricted. Moderate to poor fishery. May be used for low grade industrial abstractions. Considerable potential for further use if cleaned up.

Class 4 Rivers - Bad Quality with BOD greater than 12mg/l under average conditions.
Incapable of supporting fish. Completely deoxygenated at times. Source of offensive smells. Offensive appearance. Macroscopic invertebrate fauna restricted to pollution tolerant organisms.

X - Insignificant watercourses and ditches not useable, where the objective is simply to prevent nuisance developing.
DO greater than 10% saturation.

Sources: Woodward, 1974; Kinnersley, 1988

APPENDIX 5.5: RIVER QUALITY SURVEYS 1958-1990

Former Classifications 1958 - 1980 Surveys									New Classification 1980 - 1990 Surveys							
NON TIDAL RIVERS AND CANALS									FRESHWATER RIVERS AND CANALS							
Class	1958		1970		1975		1980		Class	1980*		1985		1990		
	km	%	km	%	km	%	km	%		km	%	km	%	km	%	
Unpolluted	24950	72	28500	74	28810	75	28810	75	Good 1a	13830	34	13470	33	12408	29	
Doubtful	5220	15	6270	17	6730	17	7110	18	Good 1b	14220	35	13990	34	14536	34	
Poor	2270	7	1940	5	1770	5	2000	5	Fair 2	8670	21	9730	24	10750	25	
Grossly Polluted	2250	6	1700	4	1270	3	810	2	Poor 3	3260	8	3560	9	4022	9	
									Bad 4	640	2	650	2	662	2	
									X	-	-	-	-	39	-	
									Unclass	-	-	-	-	17	-	
Total	34690		38400		38590		38740		Total	40630		41390		42434		
TIDAL RIVERS									ESTUARIES							
Class	1958		1970		1975		1980		Class	1980*		1985		1990		
	km	%	km	%	km	%	km	%		km	%	km	%	km	%	
Unpolluted	1160	41	1380	48	1360	48	1410	50	Good A	1870	68	1860	68	1805	66	
Doubtful	940	32	680	23	780	27	950	34	Fair B	620	23	650	24	655	24	
Poor	400	14	490	17	420	15	220	8	Poor C	140	5	130	5	178	7	
Grossly Polluted	360	13	340	12	280	10	220	8	Bad D	110	4	90	3	84	3	
Total	2850		2880		2850		2800		Total	2730		2730		2722		

* As revised in 1985[1]
All figures, except those for 1990, are from Table 6 in the 1985 Report[1]
Unclass. stands for Unclassified River

Water Quality in England and Wales: 1958-1990

Region	1980 to 1985			1985 to 1990		
	Up	Down	Net	Up	Down	Net
Anglian	21	13	+ 8	9	11	- 2
Northumbria	4	1	+ 3	2	5	- 3
North West*	4	12	- 8	7	11	- 4
Severn Trent	10	7	+ 3	10	9	+ 1
Southern	19	20	- 1	23	16	+ 7
South West	4	45	-41	18	40	-22
Thames	15	18	- 3	19	33	-14
Welsh*	22	21	+ 1	20	18	+ 2
Wessex	27	10	+17	4	3	+ 1
Yorkshire			+ 2	4	9	- 5
England & Wales	12	14	- 2	11	15	- 4

Figures for 1980 - 1985 are from the body of the 1985 Survey Report [1]
* Figures for 1980 - 1985 are for both rivers and canals

Percentages of River Length Changing Class: 1980-1990

APPENDIX 6.1: PRIVATISATION 1979-1990

1979 to 1983	1984 to 1986	1987 to 1990
British Petroleum (1979)	British Gas Corp Onshore	British Airways (1987)
Tech Group Holdings (1979)	Oil Assets (Wytch Farm) (1984)	Royal Ordinance (1987)
British Aerospace (1981)	Enterprise Oil (1984)	British Airports
British Sugar Corp (1981)	Sealink (1984)	Authority BAA (1987)
Cable & Wireless (1981)	Jaguar (1984)	British Steel (1988)
Amersham International (1982)	British Telecom (1984)	Rover Group (1988)
National Freight Company (1982)	British Shipbuilders (1985)	General Practical
Britoil (1982) (1989)	National Bus Company (1986)	Finance Corporation
Associated British Airports (1983)	British Airways Helicopters (1986)	Harland & Wolff (1989)
International Aeradio (1983)	British Gas (1986)	Short Brothers (1989)
		Water plc (1989)
		Electricity plcs (1990)

Source: Maloney & Richardson, 1992